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ABSTRACT

Focusing on program evaluation, this handbook is intended for the program director and evaluator of Experience-Based Career Education (EBCE) at the local district or school building level and describes ways of identifying key people concerned with the program, the kinds of information they will want, how to obtain the most important parts of that information, and how to present it in the most useful ways. Chapter 1 includes sections on the rationale and approach used in the handbook and suggested responsibilities and tasks for evaluation planning for each key role. Chapter 2 discusses EBCE and decision-making groups, EBCE program processes, personalized outcomes, program goals and accomplishments, and other evaluation approaches. Chapter 3 discusses factors that influence decisions about educational programs and the kinds of information valued by four groups of decision makers. Chapter 4 discusses information sources and possible ways to obtain information, the specific kinds of information decision makers want from each of the informant groups, and the instruments that can be selected or developed to obtain specific information. Chapter 5 covers analysis and reporting of data and design of evaluation study, data analysis issues, and reports planning. Chapter 6 discusses development of an evaluation plan, district and career education program characterisitcs, and initial evaluation planning. Appendixes contain a description of EBCE, a reader's guide, and instruments/procedures descriptions. (TA)

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THE FAR WEST MODEL

Experience-Based Career Education

Values & Information:

An Approach to Evaluation Planning

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PREFACE

The Far West Model of Experience-Based Career Education was developed and tested over a three year period. The results of this development and testing have been presented in a set of manuals that describe how such a personalized experiential learning program can be installed by a school or school district. These manuals are listed below. In a sense, they are the foundation on which this handbook is based, since any approach to evaluation must be based on an understanding of the purpose and procedures to be evaluated.

MANAGEMENT

1. Program Overview
2. Administration
3. External Relations
4. Student Recruitment and Selection

RESOURCES

5. Resource Development
6. Guide for Resource Persons
7. Package Development

GUIDANCE AND INSTRUCTION

8. Orientation
9. Learning Coordination
10. Supplementary Curriculum

PROJECT PLANNING PACKAGES

11. Commerce
12. Communication and Media
13. Life Science
14. Physical Science
15. Social Science

This handbook, unlike the manuals listed, is <u>not</u> based on tested procedures. It is an approach--a way of thinking about and carrying out evaluation--to providing useful information that reflects the important features of experience based learning.

CHAPTER I

EVALUATION ORIENTATION AND OVERVIEW

This handbook has been prepared principally for the Program Director of Experience-Based Career Education (EBCE) at the local district or school building level, and for an "evaluator." These people should have a shared responsibility for the total evaluation effort, and must have a common basis of understanding of approaches and methods to be used. Because evaluation should be responsive to the needs and interests of a variety of people, one or more district staff members should also be familiar and involved with evaluation planning. Finally, it is likely that EBCE program staff will be involved to some degree because of their information needs and their interest in outcomes. Some staff members may find parts of the handbook useful. The program staff will, however, be mostly concerned with the interests, requirements, and problems of the individual students assigned to them. Since this handbook is focused primarily on *program evaluation*, it will not deal with all of a program staff's interests in evaluation information.

This first chapter, then, should be read carefully by all three of the users mentioned above, i.e., program directors, evaluators, and district staff members with responsibilities for evaluation planning. The chapter includes sections on: the rationale and approach used in the handbook; suggested responsibilities and tasks for evaluation planning for each of the key roles; and an explanation of how the handbook is organized.

Rationale and Approach

Since the Experience-Based Career Education (EBCE) program is new in your district almost everyone will be evaluating it, either formally or informally. Those who evaluate it will do so from their own frames of reference using information (or misinformation) they think is appropriate in ways that are meaningful to them. Many people may be making important evaluative judgments

that those immediately involved in the program don't even know are being made, and they may be using and interpreting information which the program staff would say is absolutely incorrect.

Different perspectives are likely to operate when the EBCE program is being evaluated by various groups. School administrators who decided that the EBCE program would meet some important needs will be concerned to know (or show) that the decisions they made were correct. The program staff who are committed to the program as an effective way of helping students will be concerned to know (or show) that their time and efforts have been useful to the individual students with whom they have worked. Both of these groups of people have a very personal and professional stake in the success of the new program.

Other people not directly involved in the program, but with active roles in the school district, may be concerned with the costs of the program and its acceptability to groups whose support of schools is important. Still another group of staff or parents may be evaluating the program because they would rather have had the same money allocated to accomplish different purposes on which they placed greater value. Finally, if the program is funded by a state or federal agency, the agency staff will be concerned to learn if the program is being operated as they expected, and if it is contributing to the purposes intended when funds were provided.

This handbook is based on the premise that the range of perspectives, or value systems, that impinge on education are all important, even though many of them are conflicting. It is essential, therefore, that educational program information relevant to the values and interests of the different stakeholders in the schools be collected and presented in ways that are useful to them. The purpose of the handbook is to describe ways of identifying key people concerned with the program, the kinds of information they will want, how to obtain the most important parts of that information, and how to present it in the most useful ways.

The emphasis is primarily on planning for evaluation to insure that information necessary for decisions about the future will be obtained, rather than on simply describing what has happened in the past. It is acknowledged that the task of obtaining all the information that everybody will want is an impossible one. It is hoped, however, that the handbook will help users to think in detail about what information is crucial before the need to take some action occurs and it is too late to gather the facts.

No single handbook can deal with all the important evaluation questions that arise in connection with the adoption and implementation of a new program. This handbook was written assuming that the following district conditions are present:

- The decision has been made that an EBCE program will meet some stated needs (and perhaps some that are real but are not stated explicitly).
- The Far West Laboratory-EBCE model, or an adaptation of it, has been chosen. (This assumption has implications primarily for use of terminology in later sections.)
- The one person who will have principal responsibility for starting and running the school (EBCE Program Director) has been named, and perhaps some other staff chosen.
- The responsibility for program evaluation has been assigned to one person or group on a full or part-time basis.
- One or more district staff members have the responsibility for representing the district's interests in evaluation.
- Handbook users are knowledgeable about the EBCE program purposes, and generally familiar with the intended structure of the new program.*
- Evaluation planning has begun early enough that decisions can still be made about what information to obtain throughout the year, and how to organize it.
- The EBCE program staff has an important stake in the kinds of information presented about the program, but groups outside the program also have an important need for the information.

If these conditions are not present in your district, the development of an evaluation plan that follows the approach used in this handbook may not be as productive as it otherwise might.

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* A reader's guide for helping the evaluator or others not having major program responsibilities to understand EBCE purposes and approach is included in Appendix A.

Role Responsibilities for Evaluation

Responsibilities of different staff members for evaluation planning and implementation are often shared, may overlap, and will undoubtedly vary according to local conditions and organization. Thus, no prescriptive assignment of responsibilities for a given site is possible. The grouping that follows does, however, suggest an assignment by role title that reflects generally the types of responsibilities that can best be assumed by staff members having particular kinds of experience and training.

Program Director. The EBCE program director is the person who knows most about the EBCE program, and at the same time is in a position to have some understanding of the information needs of both the program staff and those outside the program. This does not imply that he should control or load the information in favor of the program. But he should work to insure that the evaluation plan accurately reflects the program purposes and procedures, and to insure that the program staff understands and accepts the need for evaluation activities, including the need to provide useful information to key people not immediately associated with the program. The program director should:

- Work with district staff members to identify key persons or groups of people who will be making decisions about the EBCE program, the kinds of decisions they need to make, the factors that affect their decision-making, and the most valued information for each;
- work with the evaluator to identify information responsive to the needs of decision-makers, and to determine the participants who can provide the information most efficiently;
- help the evaluator translate information needs of various groups into evaluation questions and objectives;
- establish information priorities in terms of time available for collecting information and the financial and staff resources available for evaluation;
- provide for staff involvement in evaluation planning as appropriate, and provide information to staff and students about the purposes, rationale, and procedures of evaluation;
- review and advise on the selection of instruments and procedures for information collection;

- insure that information collected relevant to program improvement is shared with program staff and is used;
- insure that program implementation is documented as it occurs;
- arrange for cooperation of staff, students, parents and othere in the collection of information as outlined in the evaluation plan;
- work with the evaluator in planning the kinds of reports to be prepared; and
- interpret results to staff, students, and parents in ways that respond to their interests.

Chapters II through IV in the handbook are the most relevant to the program directors' responsibilities.

The Evaluator. The evaluator's concerns may deal primarily with the selection or development of procedures for collecting and analyzing information and with insuring that the information is as accurate as possible under existing limitations. But since the effective evaluator is also a link between program staff and the ultimate users of program related information, his or her responsibilities go beyond the mere technical aspects of evaluation. The evaluator should:

- Acquire an understanding of the EBCE program rationale, purposes structure, and intended procedures;
- work with the program director to translate information needs of decision-makers into evaluation questions and/or objectives;
- work with the program director to specify kinds of useful information that can be obtained from various sources;
- select an evaluation design that is compatible with information needs, constraints, and resources;
- review and select appropriate measures and instruments, considering the advice of program staff;
- explain to the program staff the reasons for the selection of particular designs and procedures;
- assist program staff to schedule information collection events;
- collect, organize, and analyze information according to professional standards;
- document deviations from planned procedures for information collection;

- work with the program director in planning the kinds of reports to be prepared;
- work with the program director in reporting outcomes to interested parties in ways that respond to their needs and interests; and
- prepare one or more reports to meet the needs of different key groups.

Chapters IV through VI and Appendix B will be useful primarily to the evaluator, but he or she should be familiar with the entire handbook.

District Staff. Because information collection plans and procedures for program evaluation should meet the needs and interests of various constituent groups, including the superintendent, the board of education, community, etc., these interests should be represented. A district staff member may be in the best position to advise on such information needs. One or more district staff members should:

- Acquire an understanding of the EBCE program rationale, purposes, structure and intended procedures;
- work with the program director to identify the information needs of key persons or groups who will be making decisions about the EBCE program;
- become familiar with evaluation plans; and
- provide necessary support for evaluation.

Chapters II and III of the handbook should be sufficient for district staff in providing this assistance.

Organization of Handbook

Just as differing perspectives determine the ways in which people evaluate programs, so do particular views on what evaluation is or should be determine how handbooks and guides are prepared. The orientation of this handbook is that good evaluation studies should produce information that is useful for making decisions. When decision-making is as diffuse as it usually is in education, however, it doesn't help to talk in generalities about evaluation for decision-making. The focus here, therefore, is on helping people in each district determine information they need for decisions that have to be made for their program.

Much of the handbook consists of a series of exhibits and worksheets with short explanatory test. The exhibits are presented in one possible logical sequential order to describe by example some of the complex factors that must be attended to in planning program evaluation. The worksheets represent an effort to show how the principles might be used for actual evaluation planning, which is never sequential, and seldom logical. The list of questions and exhibits by chapter presented below show how the handbook is organized.

Chapter II

- What kinds of people make decisions about what features of an educational program? — Exhibit 1
- What is the relationship between the approach to evaluation used in this handbook and other approaches that could be used? — Exhibit 2

Chapter III

- What are the most important factors that influence people as they make decisions about educational programs, and what kinds of information do they value? — Exhibit 3

Chapter IV

- Who can provide the kinds of information different people value, and what are the possible ways this information can be obtained? — Exhibits 4-6
- What are the specific kinds of information decision-makers want from each of the informant groups, and what instruments can be selected or developed to obtain the specific information? — Exhibits 7-13

Chapter V

- What kinds of evaluation designs can be used to provide answers to the most important questions? — Exhibits 14-21

Chapter VI

- How can information needs for a particular EBCE site be identified? — Worksheets 1-4
- How might an evaluation plan for a particular site be developed and presented?

CHAPTER II

EVALUATION FOR EBCE DECISIONS

The word "evaluation" has so many meanings that it is not particularly useful for deciding what should be done in evaluation or who should have responsibility for doing it. But the word can certainly stir up emotional responses in many situations. The problem with the word as used in education stems from its root -- "value." When people are using or reacting to the word in the context of a particular program, we may often learn more about the values of the speakers -- those who did the evaluation or those who were being directly or indirectly evaluated -- then we learn about the worth of the program being evaluated.

It is entirely to be expected of course, that peoples' values should operate as they think about educational evaluation, because education is a value loaded activity. One of the reasons that program evaluation efforts are not seen as particularly useful, however, may result from giving insufficient attention to the values and interests of those who are not directly involved in the program, but who must make decisions about the program. Responsibility for decision-making in education is very diffuse. All kinds of people, state legislators, parents, local voters, professional staff and students, with different values and interests become involved in various aspects of educational program decision-making. This range of values and interests must be attended to, as well as the values of those who do evaluation and those who are involved in the programs being evaluated.

Educational values of even one person can not be considered as a constant for all programs. Individual values that operate in considering, say, elementary school programs would be somewhat different from those that operate in thinking about a post-high school program. Similarly, different values will be important in consideration of different secondary school programs. In planning for program evaluation, therefore, values and interests of key groups must be considered in relation to particular program purposes and procedures. Doing so becomes a particular challenge for a personalized instructional program like EBCE.

A review of the various program manuals listed in the Preface, or of the brief summary description provided in Appendix A, will make it evident that a very heavy emphasis is placed on personalization of the student learning activities. In a very real sense, there could be as many different EBCE programs as there are students in a particular program, simply because each student is, in effect, a program. Evaluation information must be collected and presented to meet a much more complex set of information needs than is the case in group instructional programs.

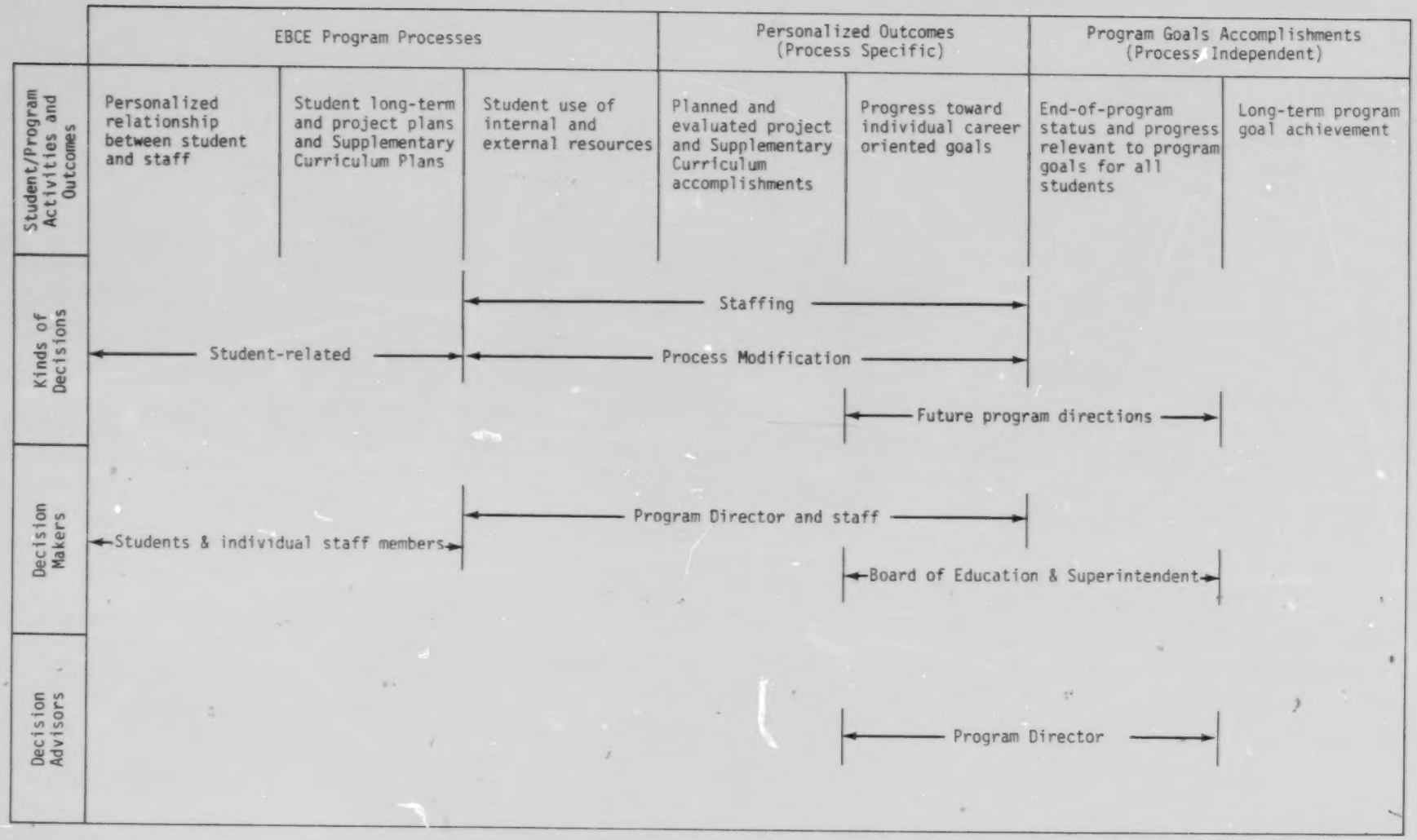
EBCE PROGRAM AND DECISION-MAKING GROUPS

Prior to planning for EBCE program evaluation, it may be useful to "stand" back" from the procedures and students to make some assessment of the kinds or classes of program level decisions that can be made and who has responsibility for making them. In other words, given that the program is really a number of students, each of whom is pursuing activities that will be most helpful for his learning, how can one get some handles on the decisions that can be made at a program and institutional administrative level. Exhibit 1 is a schematic representation of the relationships between the EBCE processes, outcomes, and decisions that can be made by people in various roles.

Although effective educational procedures are designed to assist students in progressing toward identified outcome goals, the directions and amount of progress achieved are determined by the procedures as employed. The actual outcomes may be at considerable variance from the intended outcomes, but if the actual outcomes are generally desirable ones, the procedures should be considered as positively effective. This is particularly true for programs like EBCE, which place great stress on personalized instruction. The three headings in Exhibit 1 distinguish processes, personalized outcomes, and program goals in recognition of the fact that there can be outcomes other than those stated as program goals. The nature of these distinctions and their implications for evaluation planning are discussed in more detail below.

EXHIBIT 1

EBCE PROCESSES, OUTCOMES, DECISIONS AND DECISION MAKERS


EBCE Program Processes
Personalized Outcomes (Process Specific)
Program Goals Accomplishments (Process Independent)
Student/Program Activities and Outcomes
Personalized relationship between student and staff
Student long-term and project plans and Supplementary Curriculum Plans
Student use of internal and external resources
Planned and evaluated project and Supplementary Curriculum accomplishments
Progress toward individual career oriented goals
End-of-program status and progress relevant to program goals for all students
Long-term program goal achievement
Kinds of Decisions
Staffing
Student-related
Process Modification
Future program directions
Decision Makers
Program Director and staff
Students & individual staff members
Board of Education & Superintendent
Decision Advisors
Program Director

EBCE Program Processes

The personalization of instruction in the EBCE program depends to a large extent on the individual responsive interactions of the students and various program staff members (learning coordinators, skills specialists, workshop leaders, and the EBCE program director). In Exhibit 1 they are represented in the first cell of row 1. The structure for the individual student learning is introduced through the planning procedures, the outcomes of which are summarized using the various planning forms (long-term, project, and supplementary curriculum plans). These planning procedures are represented by the second cell in the first row.

Obviously, many decisions are made as these personalized plans are developed. Virtually all of them are made at the individual student level, however, and are highly idiosyncratic rather than programmatic. In fact, they are designed to facilitate student experience in making decisions about personalized learning activities. Staff members may accumulate experience useful in helping them decide on better ways of dealing with other students, but all of the documented information produced is reflected primarily in the planning that students do as they progress in their own learning. The kinds of decisions that can be made are shown in row 2 as student-related, and the decision-maker's (row 3), are shown as students and individual staff members.

The third cell in the first row represents the activities students pursue as they implement their individual plans. Both the student and learning coordinators are interacting with people and agencies outside the program. While the emphasis is still on the individual student, the relationships are somewhat formalized, consistent with established procedures. Information about these relationships can be obtained in ways that permit definition of problems where procedures need improvement, and identification of particularly useful features that should be retained. This information can be accumulated across students, and staff decisions can be made about revision of program procedures and materials, as shown in rows 2 and 3.

Personalized Outcomes

Two kinds of personalized outcomes can be assessed during the time the student is enrolled in the EBCE program. The most frequently available evidence

of such outcomes is contained in the products produced by the students as a result of completion of projects and supplementary curriculum activities. These are represented in the fourth cell of row 1 in Exhibit 1. An example of the products of a *single* project in Life Sciences is given below. More detailed descriptions of projects and project outcomes documentation is provided in the learning coordinator handbook, pp. 47-48, 140-141, 145, 189, 193, and 225.

1. An oral report to interested students on native plants harmful to people, including plant speciments labelled to indicate how the plants can be harmful and what effective antidotes are available.

2. A written report describing common plant allergies, allergic reactions, and treatments, including photographs and/or drawings of at least ten local allerogenic plants.

3. A presentation to a group of interested students on information about employment opportunities and requirements in the field of botony, the information having been obtained from at least three appropriate sources.

Projects, which are the principal EBCE device, are designed to enhance the personalized learning of the students; the immediate outcomes will be quite specific to the EBCE processes. The assessment or evaluation of the project outcomes is intended to be essentially personalized; i.e., it is to be made in relation to the individual student's plans, interests, ability and experience. These outcomes assessments should be useful primarily to the student and learning coordinators for taking next steps in student program planning, and secondarily to the program staff in evaluation of the procedures employed in the program. They are of relatively little, or no value *per se* in evaluation of the program effects. Thus, the decisions for which this information can be used is shown in row 2 as related to process modification and/or staffing, and the decision-makers are shown in row 3 as the program staff and/or program director. (Credit awarded for projects and supplementary curriculum activities can be counted as evidence of progress toward meeting graduation requirements, but such counts necessarily lose much of the personalized value of the projects.)

Since projects and supplementary curriculum activities are planned in relation to students longer-term individual career oriented goals, the second kind of process related outcome, shown in the fifth cell of row 1, is progress

toward these individual student goals. The individual goals will vary greatly in terms of the content, specificity, and clarity with which they are stated. Systematic assessment of progress may often depend on student-reported perception of progress, and in most cases will be confounded by the student response to the instructional process. Subject to these constraints, such assessment information can be useful both for making decisions about process revision and modification, and for making decisions about future program directions, as shown in row 3 of Exhibit 1. The former decisions will be made by the program director and staff, and the latter primarily by the board of education and superintendent, as shown in row 3. The program director can, and undoubtedly should, advise the board and superintendent on some of the implications of their decisions, and this is shown in row 4.

Program Goals Accomplishments

The last two cells in row 1 represent the kinds of outcomes that might be expected if students had made progress toward the EBCE program goals. Program goals are by definition timeless, however, and program evaluation must be conducted within a reasonable and realistic time period. Further, there are many ways in which such goals can be achieved. EBCE program procedures are designed as one approach to attainment of these goals, judged likely to be more efficient than alternatives, at least for some students. Other alternatives can be as effective, and for some students may be more efficient.

The end-of-program and long-term program achievement cells differ primarily in terms of time. Long-term program effects could be judged from evidence accumulated over an entire lifetime of the ways people attain career and job success and satisfaction, approach job career changes, and so on. Although important, these long-term effects can not be considered in program evaluation because they will not be known in time to affect decisions in this particular program. Further, when they occur, they will be affected by so many intervening experiences that it would be impossible to attribute effects to the EBCE program *per se* with any confidence. For these reasons they are shown in Exhibit 1 as not being useful for either kinds of decisions or groups of decision-makers.

End-of-program status and progress (the *sixth* cell), then, represent those effects that could be assessed within a reasonable period after students

leave school. Additionally, the assessment procedures or information collection devices would be ones that do not depend on students having had particular kinds of education experiences. Information about these effects, in conjunction with student perception of personal progress, will be most useful for decisions about future program directions that are to be made by the board of education.

Studies of end-of-program progress or status could require longitudinal or follow-up studies of students from a variety of programs. The length of the period covered by the longitudinal studies would vary depending on particular circumstances and interests. They might be done in the fall after graduation from high school, if the interest is in learning about the effects on short-term post high school plans and career choices, or they might involve one or two year follow-ups for some longer term effects. Most often, however, studies of progress toward program goal accomplishments will be done at the time the students normally graduate from high school, simply because of the time and cost of conducting longitudinal studies. The purposes of the studies will be principally to collect information about progress toward program objectives using data collection procedures that are not specific to a particular program. Information gained from such studies should be useful in major decisions about the total program to be made by the district superintendent and board of education.

OTHER EVALUATION APPROACHES

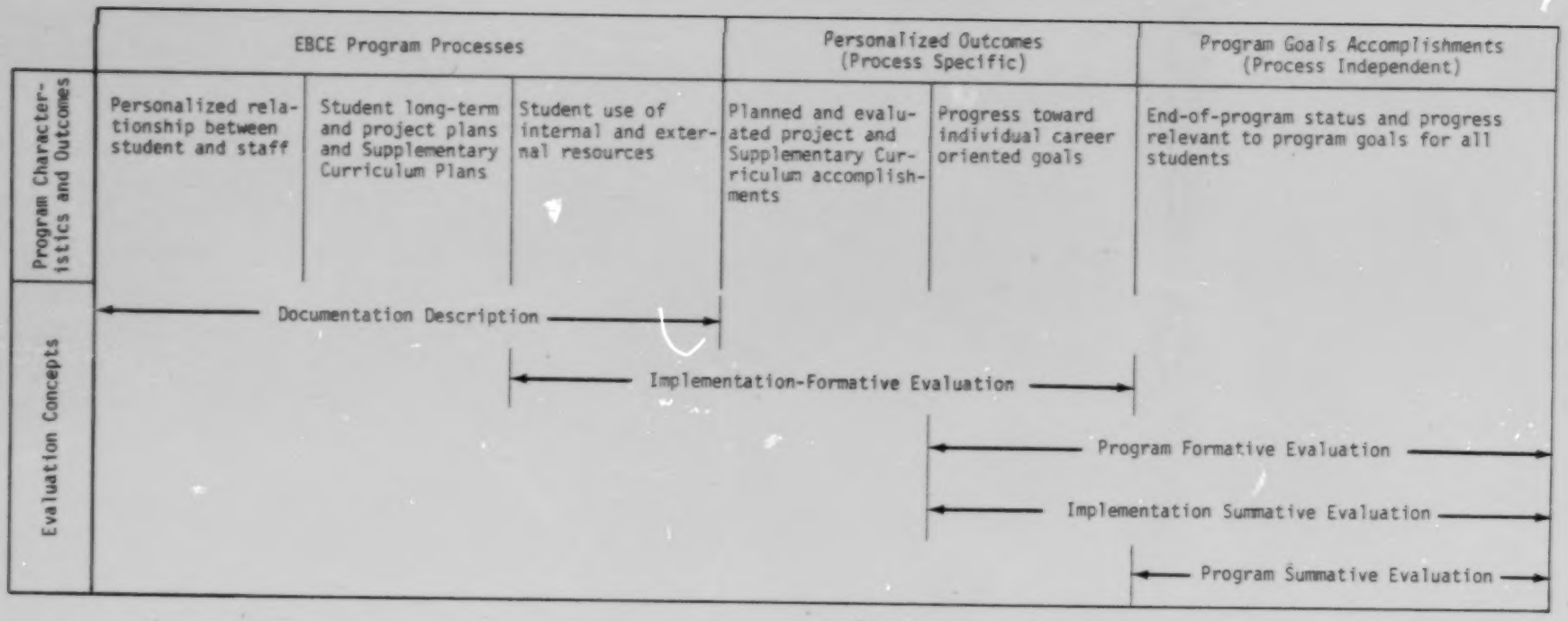
Many people have found it helpful to think about evaluation in terms other than those related to decision-making as used in this handbook. One of the most commonly used conceptualizations of evaluation makes a major distinction between two purposes. One of these purposes is covered by the term "formative evaluation," which generally is directed to the assessment and improvement of procedures to achieve a set of objectives. The other major purpose is covered by the term "summative evaluation," which generally is directed to the assessment of the extent to which a particular set of objectives have been achieved with or without reference to the particular procedures used. Other terms that are frequently used in the conceptualization

of evaluation are: documentation, process implementation evaluation, and fidelity of installed procedures to designed procedures.

Detailed discussion of these various conceptualizations, or even precise definitions of terms, is beyond the scope of this handbook. The ultimate test of the value of any conceptualization is its usefulness to the person who has responsibility for evaluation. At the risk of too great an oversimplification of various concepts, the relationships of some of these other approaches to the decision oriented approach used in this handbook is shown in Exhibit 2 on the following page. The sole purpose of presenting this exhibit is to help those who find other approaches more useful to relate the material in this handbook to their ways of thinking about evalution, and no further discussion is provided here.

EXHIBIT 2

DOCUMENTATION, FORMATIVE, AND SUMMATIVE EVALUATION ACTIVITIES AND OUTCOMES


EBCE Program Processes
Personalized Outcomes (Process Specific)
Program Goals Accomplishments (Process Independent)
Program Characteristics and Outcomes
Personalized relationship between student and staff
Student long-term and project plans and Supplementary Curriculum Plans
Student use of internal and external resources
Planned and evaluated project and Supplementary Curriculum accomplishments
Progress toward individual career oriented goals
End-of-program status and progress relevant to program goals for all students
Evaluation Concepts
Documentation Description
Implementation-Formative Evaluation
Program Formative Evaluation
Implementation Summative Evaluation
Program Summative Evaluation

CHAPTER III

PERSPECTIVES, DETERMINANTS AND VALUED INFORMATION

In Chapter II an analysis of evaluation for EBCE decisions was presented as a way of thinking about groups of participants who would be interested in information about EBCE program features and various kinds of program effects. This overview was necessarily somewhat abstract, since there is no way that a handbook on evaluation can take into account the variations from one school situation to another. This chapter is intended to illustrate a process for identifying the specific information needs of various key groups who will influence or determine the ways in which decision questions are shaped in the context of the particular program.

A first useful step is to prepare relatively brief descriptions of the interests and concerns of appropriate groups of key people. In large part, these would have to be based on interpretations or observation of the past behavior of individuals. Obviously, however, the descriptions should not dwell on individuals or personalities. Program evaluation is often a long-term activity and individual participants change rather often over time. The purpose of the sketches will be to develop descriptions that reflect with some accuracy the particular circumstance in which the program operates, but to do so by describing groups or kinds of people.

Examples of such descriptions for four key kinds of decision-makers -- the board of education, the superintendent and district staff, the EBCE program director, and the learning coordinators and other program staff -- are presented below. These narrative sketches are intended to describe by example one set of perspectives that influence the way educational program decisions might be made.

PERSPECTIVES OF FOUR GROUPS OF DECISION-MAKERS

Board of Education

Concerns. The members of the school board have a variety of strong interests in education, and most of them devote a great deal of time to school related issues. They apply their individual knowledge and judgments to school problems, but they need to be concerned about maintaining constituent support. Subgroups within the general constituency with particular concerns or interests are becoming more numerous as well as more outspoken and organized on an *ad hoc* basis. In some instances, one or a combination of these special pressure groups may be the primary constituency for one or more of the board members; i.e., shared educational concerns may cause the board member to be particularly responsive to certain interest groups as programs are reviewed. Examples of some of these special interests or pressures are: emphasis on basic skills; return to fundamental education; every graduating student should have salable skills; increased educational opportunities for women; equality of educational opportunities for ethnic and/or racial minorities; ability to function in a complex technical society; and preparation for functioning in the world of work.

Problems. Particular problems facing the board are posed by decreasing enrollments, declining financial resources and the need to reduce personnel costs. In dealing with the financial problems, virtually any solution is wrong; i.e., some particular group is hurt by any proposed decision, and protests. The board is faced with new negotiating procedures and demands from teachers, and from employee unions at the non-teaching staff level. Compromise is essential, and a commonly used but not stated solution is to take a little from everybody. At the program level, parts of programs could be cut, or entire programs can be eliminated at each school. Programs funded in whole or part by money not coming from local property taxes are favored. If parts of locally funded programs can be cut with apparent large savings in cost, then most likely they will be. Such cuts can be avoided only if there is a very persuasive case for not making them. At the staffing level, simple administrative definitions of groups to be cut are sought; e.g., all probationary teachers and administrative personnel. Special teacher skills or constituent pressure for retention of one kind of staff member can sometimes result in exceptions.

Information Needs. When the board members review programs, they are particularly interested in the numbers and types of students who have been served by the program, and the extent to which parents and others outside the school staff have been involved. By and large they give great weight to the expressed opinions of parents, other special groups, and the business sector of the community about both the purposes and outcomes of the program. They are accustomed to hearing most loudly from people who do not like a program, rather than from those who do, and may respond to these protesters unless there is considerable support for a program from other groups.

Program costs and staffing requirements are also given great weight, and individual board members may have questions about the costs of various parts of the program. Information about student learning and accomplishments will be attended to only if it is presented in a non-technical way, even at the risk of over-simplification. Interest in particular outcomes, such as job entry skills, is often determined by the interest of special constituent groups.

Because of the amount of material the board members receive, they give most attention to relatively short reports that present informtion in language they can pass on to parents or other interested groups when appropriate.

Superintendent and District Staff

Concerns. The principal concerns of the superintendent (and top district staff) are generally the same as those of the board members, but they must be able to balance or compromise the various strands of opinions represented by the board. In addition, the district staff have their own "constituencies" to consider, the most important being the building level administrators, business and professional groups in the community, and teachers. The responsibilities and personal inclinations of the top staff members are indicators of their particular interests; as decisions move upward, there is increasing need to resolve or compromise conflicting interests. The final general concern of all the district staff is their professional commitment to education and student development. All of these concerns shape the way questions, problems, and recommendations are presented to the board, and the kind and form of information provided as decisions are considered. Board opinions and past actions are treated principally as signals on what will "go" and "not go" and how the problems and information should be posed.

Problems and Information Needs. Major problems with which the superintendent and district staff must deal may often be greatly influenced by costs and which programs and staff are to be reduced. Costs, staff roles and qualifications, and program effectiveness interact in more important and detailed ways than is the case for the board; for example, district staff, unlike the board, cannot oversimplify the cost considerations. Student effects, staff acceptance, and organizational efficiency are important in dealing with the cost-related problems and possible solutions, but district staff and building level administrators' opinions on these are probably more important than detailed information about effects. The opinion of parents and teachers, both those in the program and those not, are given considerable weight in judgments about program importance and accomplishments, problem areas, and smoothness of operation. Finally, the extent of involvement of various groups in program planning and operation is also important, particularly if they include non-school people from important constituencies (e.g., business groups).

Some members of the district staff and the superintendent need fairly detailed information on instructional costs, and facilitities needs and costs. The latter (facilities needs) are particularly important if one possible decision is to expand the program for more students or to other schools. For new programs, they recognize that there are one-time costs which need to be separated from continuing operational costs. Information about staff requirements, in terms of both numbers and necessary qualifications, is important. While evaluation of particular staff working in a program is not routinely essential, it may become important if some staff reductions are to be made.

Another kind of information that is given great weight by district staff members relates to the numbers and kinds of students enrolled in the program, the reasons for students leaving before completion, the numbers of non-school staff who have various kinds of involvement in the program, and the opinions of all these groups about the program. Summary data on demonstrated outcomes of the program in important areas will be useful, particularly if it is presented in relatively concise form. From time to time, outcomes information in a particular area may be requested specifically, if it is of interest to an important group of people in the district.

Generally, the superintendent will not have time to read detailed evaluation reports on programs. If brief summary reports are not available, he or

she will ask someone in the district office to prepare one from the longer report, or will ask for an oral report.

EBCE Program Director

Concerns. The Program Director is concerned primarily with staff and program operations, student/program crisis resolution, administrative certification of student progress and accomplishments, and general relationships with parents, employers and community. Secondary concerns are long-term program future, communication about the program with the district staff and ultimately the board, and student post-high school accomplishments.

Problems. The principal problems of concern to the EBCE Program Director may most often be signalled by individual crises involving students, parents or resource people, or problems in staff relationships. Very often the identified problems trigger decisions in a time frame that does not allow for systematic consideration of alternatives and collection of detailed information; i.e., they are made with very incomplete information. Routinely available management information may also be used for signalling more enduring, if less visible procedural and staff problems, which may be dealt with in a more considered manner. The problems and alternative solutions available are probably often refined and defined, and decisions made, during staff meetings or individual staff conferences. It is possible that in some instances, the staff decision is to attempt to collect additional evaluation information relevant to a problem in some systematic fashion, but lack of time and interest may limit the value of such information; the problem may well have been "solved" or have become a different problem by the time the additional information is available.

Continuation of program support and future funding is, of course, also a problem with which the Project Director is concerned. Most often attention to this problem may be defined by the time left over after dealing with the kinds of more immediate and visible problems discussed above. Unless steps were taken to plan for identifying the potential problems and desired information, they probably are not really faced until a few weeks in advance of some administratively or fiscally defined deadline. The first of such deadlines may be well in advance of the final decision date, but consideration of approaches and accumulation of relevant information is most likely carried out incrementally. The

choice of kinds of information and even the information itself may be determined in large part by the judged ease of presenting it meaningfully.

Information Needs. For the day-to-day supervision and monitoring of the school, the EBCE Program Director will most often depend on information presented by students and staff concerning particular questions and problems to be dealt with immediately, or in the near future. He or she may request more general information from various staff members, to be prepared in advance of staff meetings, or to be presented at staff meetings; the Program Director may also make use of routine management information and special summary reviews of student progress.

When reviewing program operations from a longer range perspective for revision and future expansion, the EBCE Program Director will probably be most interested in the opinions of various participants in the program -- students, parents, staff, and Resource Persons -- about the procedures employed, program purposes and organization, and judgments about student accomplishments and outcomes. Opinions about the accomplishments and outcomes will necessarily be highly personalized, and the Program Director will either cumulate these opinions for all the students himself, resulting in some summary statements he or she prepares, or will ask someone on the staff to organize the individual opinions into some kind of summary statement. The person or people in charge of the student files will also be asked to tally or otherwise obtain summaries of projects completed, credits earned, and so on.

Information on general skills and knowledge gained specifically from the program activities may be of interest at the end of the semester or end of year, but the Program Director will have relatively little need for information about application of skills and knowledge as indication of longer-term student progress toward career goals and objectives. Such information can have virtually no impact on program planning for the next semester or next year, if for no other reasons than that it will be available too late, or will not be specific enough for his purposes.

The Program Director will, of course, have responsibility for and interest in the provision of information requested by the district staff or funding agencies. Often, however, such information will be seen primarily as serving some higher administrative purpose, rather than as providing information of direct value to the Program Director.

Learning Coordinators and Other Staff

Concerns. The principal concerns of the Learning Coordinator must be to respond to the needs, interests, and problems of the 15-30 students assigned to him or her. To achieve this end, secondary concerns must be directed to the adequacy of the existing EBCE program handbooks, forms, and other materials for use with those 15-30 students who are in the program during the year. To the extent that they are not adequate for one or more students, there is a need to improvise materials or find specific student-oriented solutions, including transfer to another Learning Coordinator, or out of the EBCE program. In considering the adequacy of the materials and procedures as they apply to individual students, or to all 15-30 students as a group, LC concerns are most often focused on the existing working relationships with other staff members and one or more Resource Persons as they interact with particular students.

To the extent that Learning Coordinators are concerned with review and improvement of school and program procedures for the future, this concern is most likely to be expressed in staff meeting discussions, or in response to specific requests that may be seen as "outside the LC job." Staff discussions are most often triggered by recurring problems with a number of students, for which no good solution has been found, and which may be shared by several LCs or other staff. The improvements suggested, and the one finally agreed upon as an "official" revision will be greatly influenced by the immediate common understanding of the problem in staff meetings. Again, the focus of the discussion will be on how to respond to individual student problems. Finally, the LCs will be concerned with how the school procedures generally, and their contributions particularly, are perceived by visitors, the Program Director and the district staff.

Information Needs. The principal need for information will be related to individual students and may well vary in detail from one student to another. A great deal of the information obtained and used will of necessity be clinical, and will frequently be based on hunch or inference. In fact, the nature of the school and of the LC's task is such that the value of aggregated information obtained on all students will be seen as largely irrelevant to their needs. When they are asked to cooperate in the collection of such information, time may be given somewhat grudgingly, and seen as an interference with their own work. In some instances, they may communicate this feeling to the students or

other staff. As the LCs and other staff pool or share information and experiences to arrive at decisions about school process improvement, a great deal of the clinical information will be "reduced" and interpreted internally by the various LCs.

Program outcomes and effects, which the LCs monitor, will be seen as useful, but also as highly personalized for a given student. Pooling of such information for some systematic review and improvement of school procedures will not be seen as very important, and their role in summarizing it will be much more one of interpretation leading to summary judgments that they can pass on for use by others. In short, the actual conduct of program revision by LCs will be largely based on their individual experiences rather than on aggregated data.

DECISION DETERMINANTS AND VALUED INFORMATION

The sketches presented above necessarily have statements about values, perceptions of problems, pressures, and information needs somewhat intermixed. They represent an effort to describe the way groups of people act, and most of us tend not to separate all these different factors into neat classes in our daily living. For purposes of program evaluation, however, it is necessary to look for and describe in brief and specific terms some of the underlying organizing principles that appear to guide the decision-makers in a particular situation. Exhibit 3 provides an example of such a distillation of the information provided in the sketches. In some cases, the descriptive phrases used in Exhibit 3 were taken directly from the sketches; in other instances, the descriptive phrases are based on inferences drawn from combinations of ideas or factors in the sketches.

Descriptive statements of two general types have been used in Exhibit 3. One type of statement has been classed as *Decision Determinants* and includes all those things represented by such personal words as values, interests, needs, perspectives, and the like, plus acknowledgment of external pressures on people that affect approaches to particular decisions. The other general type of statement has been classified as *Valued Information* and includes both the kinds of information each group gives most weight to, and the sources of information to which these groups give most attention.

It cannot be stressed too heavily that Exhibit 3 is presented only as an example of one set of Decision Determinants and Valued Information. The set of determinants and information needs for a given site may include other determinants, or fewer; it may include more or different kinds of information. Program evaluation at a particular site will be most useful to all concerned if it is responsive to the information needs of those particular people who will be making the decisions.

Finally, it will be noted that Exhibit 3 does not include *Decision Determinants* or *Valued Information* for an external funding agency. This ommission does not imply, of course, that the information needs of such an agency are unimportant. It is of crucial importance that those planning for EBCE program evaluation attend carefully to these needs.

If the EBCE program is operated with full or partial funding provided by some external agency -- federal, state, county, or foundation -- the staff of the agency will have needs for particular kinds of information. Some agencies may also be quite prescriptive about how the evaluation study is to be done, and who is to do it. The variety of these needs is diverse and may well change quite frequently even over short periods of time. Therefore, provision of a sketch in this handbook for such groups, similar to those just presented for school district groups, is not likely to be useful. If district program staff know something of the interests of particular people in the agencies, or of the ways in which the agency may be using the information they request, it might be useful to write a sketch and to derive statements similar to those in Exhibit 3. If the agency has been quite prescriptive about the information wanted, and ways in which it is to be collected, then the remaining concern of the district and program staff is to insure that the information is collected, presented and interpreted in ways that will minimize misunderstanding of the program and its outcomes.

EXHIBIT 3

DECISION DETERMINANTS AND VALUED INFORMATION FOR DECISION MAKING GROUPS

Board of Education	Superintendent and District Staff	EBCE Program Director	Learning Coordinators and Other Staff
DECISION DETERMINANTS			
Staffing requirements	Staffing requirements	Support of parents, resource personnel and others directly affected by program activities	Definitions of internal and external role responsibilities and procedural limitations on personal judgments
Program costs and availability of funds	Program costs and availability of funds	Minimization of "crises" for students staff and resource people, monitoring and improving operations, staff-resource-student relations	Procedurally defined relationship of their responsibilities to those of other participants in program, as modified by personal styles and preferences
Students served and non-staff involvement in programs	Students served and non-staff involvement in programs	Student progress review and administrative certification for completion	Student response, sense of satisfaction, and apparent progress toward students' goals
Community involvement and support	Other community involvement	Student accomplishments and outcomes	External resource response to participation
Constituent support for program purposes, procedures and actual accomplishments	Staff support for program, both EBCE EBCE staff and knowledgable staff in district	District level support and continuation of funding for the program, external funding agency support for future	Parent and student support for program activities
Demonstrated accomplishments and outcomes	Operations efficiency		Approval and support of Program Director
	Non-staff participant support for program		Support for program and continued funding by district and/or external funding agencies
	Student support		
	Business and other community groups support		

Board of Education	Superintendent and District Staff	EBCE Program Director	Learning Coordinators and Other
VALUED INFORMATION			
Numbers, requirements and level of staff required	Numbers, requirements and level of staff required, but with more detail on professional and personal qualifications, job description	Opinions and *ad hoc* judgments of participants and staff in district whose roles impinge on the EBCE activities	Student completion of projects, and other individual evidence of accomplishments
Numbers and characteristics of program participants: students, parents, resources, others	Numbers and characteristics of program participants: students, parents, resources, others	Management and other routine information that gives advance signals of potential problems	Staff and student comments about efficiency of various aspects of program operations
Costs for total program and major elements; grouped by instruction, administration, facilities and other; and whatever information is required by state or funding agencies; time and costs contributed by resources	Costs for total program and major elements; grouped by instruction, administration, facilities and other; and whatever information is required by state or funding agencies; time and costs contributed by resources	Staff and resource discussions, comments, and suggestions about problems, suggested improvements, and effective procedures to be encouraged	Indicators of effective realtionships with other staff and resource people
Opinions of participants and other knowledgeable groups about the purposes, actual operation and perceived accomplishments of the program	Opinions and informed judgments of staff about purposes, rationale, procedures and staff requirements	Systematic reporting on number and quality of projects completed, and on relation of actual progress to long-term and project plans	Volunteered student and parent opinions and expressions of satisfaction or dissatisfaction with program operations
Actual accomplishments in special interest areas; i.e., basic skills, job preparation, career knowledge, academic learning	Uses of staff and resource personnel, relationships and communication among them, student progress in meeting administrative requirements	Systematic and "clinical" evidence of student progress toward personal and program objectives	Clinical and systematic evidence of student group progress and accomplishments of program related objectives
	Resource personnel opinions about role and contributions, program operations and communications, and student accomplishments at resource sites	Demonstrated application of skills and general knowledge in special interest areas	
	Opinions and perceptions of key community groups about purposes and procedures of the program	Other information requested and specified by district staff, Board of Education, and funding agency	

CHAPTER IV

SPECIFICATIONS FOR INFORMATION COLLECTION PROCEDURES

The preceding chapter was intended to provide assistance in identifying information needs of various groups of people who will be important consumers of evaluation information. In the final analysis, however, the information provided will of necessity be determined by the choice of the particular information collection procedures used.

Since the EBCE program is essentially new to your district, considerable time and thought may be required to insure that the data collection procedures are relevant to the EBCE goals and objectives, and to the highly personalized procedures implicit in the adoption of the program. If only readily available or previously accepted information collection procedures are used, the resulting evaluation data are likely to be at best only partially relevant; they may even misrepresent the outcomes of the new program as well as other career education programs within the district.

The responsibility for the choice or development of information collection procedures will probably rest primarily with a person or group that has been designated as the "evaluator." The task, as outlined in this handbook, is essentially one of transforming statements or indicators of what various groups of people would like to know about the program into working definitions of what can actually be learned about the program. The task might be stated by an *evaluator* as: "I have a pretty good idea of the kinds of things various groups of people want to know about the program, and I think I know the kind of information that they will find useful. But since different people want different kinds of information, there is no way that I can satisfy all of these needs. I know I should not take very much of the students' time away from their learning experiences; and parents, staff and Resource Persons are interested in helping the students -- not in program evaluation. So what procedures should I use?"

Arriving at the answer to this question will require an ability to establish priorities for information collection, and inevitably a willingness to make or facilitate some compromises between what would be ideal and what is practically possible. The effective evaluator is a link between the program

staff and Resource Persons and the ultimate users of program-related information but he must apply his professional training and experience to insure that the information is as accurate as possible under the existing limitations.

The remainder of this handbook is intended primarily to help the evaluator review rather quickly available data collection procedures; establish information priorities in relation to the feasibility of the various available procedures; select or plan for the development of particular procedures to be employed; and plan for the analysis and preparation of the necessary reports. It will become evident that the evaluator cannot carry out this process alone, however; the decisions the evaluator must make are too closely related to considerations and interests of the program staff, and of the potential information users.

INFORMATION SOURCES AND POSSIBLE PROCEDURES

The first two major *procedural* questions to be dealt with by an evaluator are: "Who can provide the kind of information that is valued?" and "What are the kinds of procedures that might be used to obtain specific information?" Exhibits 4, 5, and 6 have been prepared to illustrate an approach to organizing responses to these two questions. The three exhibits represent three groups of decision-makers, since these groups differ to some extent in the kinds and amount of information detail they want.

For convenience in presentation, the three exhibits are directed respectively to the needs of the board of education, the superintendent and district staff, and the EBCE Program Director. The information needs of the Learning Coordinators and other staff, which were noted in Chapter III, have not been considered in the preparation of these and subsequent exhibits. This decision was based on material presented in the sketch for the Learning Coordinators and in Exhibit 3, and is an illustration of a "first cut" in establishing information requirements.

Most decisions by LCs and other staff were quite specific to the needs, interests and problems of individual students, and for the most part resulted in immediate actions. Thus, it was concluded that information resulting from the more formalized program evaluation efforts would, in most cases, not be directly relevant to the LCs and other staff.

It should be stressed, however, that omission of the LCs and other staff is only an illustration of priority setting in the process leading to final choices of procedures. There is <u>no</u> implication that the information needs of program staff should be glossed over by the evaluator. Much of the information collected for the Program Director will undoubtedly be relevant to staff group decisions, or at least of interest to the staff, and should be shared with them. Further, this decision on priorities is not intended to suggest that the LCs and other staff should not be consulted, or at least informed, about the information to be collected in meeting the needs of other potential users.

Using Exhibit 4 as an example that applies equally well to Exhibits 5 and 6, it will be noted that each of the decision determinants described in Exhibit 3 as being appropriate to the *Board of Education* has been entered in the first

column of Exhibit 4, although in an abbreviated or short-hand form. The second and third columns of Exhibit 4 were completed through consideration of the material presented in the sketch for the board of education. For example, the board's interest in knowing about the numbers and kinds of students served suggested that necessary information must be obtained from program files, and that the information of most value to them could be presented by summaries of the numbers of students in various categories.

The last column lists a number of instruments or procedures that might be used to collect the desired information. In most instances, more procedures are listed for consideration than would actually be used. Continuing the example from Exhibit 4 of students served, the last column shows that the information from the files might best be collected by designing in advance forms that would permit tallying the numbers of students in each major category of possible interest to the board. Such forms might allow for counts of applicants; of enrolled students who completed the year, or program; of students who transferred to another program of school in the district, or to another school in a different district; and of students who terminated their formal education prior to completion of high school. The separate counts might also be broken down by sex, ethnic group membership, high school sending area, and any other classifications that are conventional within the district, or thought to be of particular interest to the board of education.

A review of Exhibits 4, 5, and 6 will indicate that there are decision determinants common to two or more of the exhibits, and that information wanted for one group will also be useful to another group. It is also true, however, that more information relevant to a decision determinant would be obtained, say, for the district staff (Exhibit 5) than would be obtained for the board of education (Exhibit 4). This is a reflection of the fact that district staff members make a large number of specific administrative and procedural decisions while the board of education is concerned only with policy decisions and administrative overview.

A comparative review of all three exhibits will also indicate that at this stage, these exhibits represent an information "wish list," with a fair amount of duplication across lists. Much more information is implied than can actually be obtained. It may be possible to omit low priority information needs at this stage, but it will most often be better to postpone these priority decisions until after the material is rearranged to examine the time demands that would be imposed on the various people who will be supplying the information.

EXHIBIT 4

SOURCES AND POSSIBLE PROCEDURES TO OBTAIN INFORMATION

FOR THE

BOARD OF EDUCATION

Decision Determinants	Information Sources	Possible Procedures
Staffing requirements	Program files Program Director Program staff	Narrative reports by Program Director derived from files Scales measuring staff opinion Staff reports on perceived requirements
Costs	District business office	Routine budgets and cost reports Special analyses with designed forms Prescribed forms for funding agency Interviews
Students served	Program files	Tally forms for applicants, enrolled students, early departures, sub-grouped by grade, sex, high school sending area, etc. Summary statistical tables
Resource participation	Resource analyst files	Tally forms for resource involvement by major classifications, to provide summary statistical tables
Community involvement	Program files Meeting records, minutes and other documents	Counts of participation, narrative summary of involvement
Constituent support for purposes and procedures	EBCE parents Other parent groups Business and community groups	Opinion items or scales Ratings Interviews
Personalized accomplishments	Program files	Designed forms to document student accomplishments
Program goal outcomes	Students	Objective quantitative and qualitative indicators Interviews Opinion items or scales Self-ratings

EXHIBIT 5

SOURCES AND POSSIBLE PROCEDURES TO OBTAIN INFORMATION

FOR

DISTRICT STAFF

Decision Determinants	Information Sources	Possible Procedures
Staffing requirements Costs Students served Resource participation Community involvement Constituent support for purposes and procedures Personalized accomplishments Program goal outcomes	Same as board of education (Exhibit 4)	
Staff support for purposes and procedures	EBCE staff Other staff in district	Opinion items of scales Rating scales Interviews Notes or records of formal and informal faculty discussions and meetings
	Teacher associations or unions	Recorded actions of faculty and other staff groups
Operations Efficiency	School and LC files EBCE Program staff	Designed forms on program operations Opinion items or scales Interviews
	Trained observers	Narrative descriptions with supporting counts of activities actually followed by students and staff
	Resource Personnel	Opinion items or scales Rating scales Interviews
	EBCE parents	Opinion items or scales Ratings Interviews
	EBCE students	Opinion items or scales Ratings Interviews

EXHIBIT 6

SOURCES AND POSSIBLE PROCEDURES TO OBTAIN INFORMATION

FOR

EBCE PROGRAM DIRECTOR

Decision Determinant	Information Sources	Possible Procedures
Operations Efficiency	Same as for district staff (Exhibit 5)	
Constituent support for purposes and procedures	EBCE parents EBCE resource personnel and organizations Advisory board	Opinion items or scales Structured interviews Unsolicited opinions Records or documentation of supportive actions or of identified problems and responses
	Program files	Minutes or records of staff meetings where program procedures were modified
Student progress review and certification	Student files	Objective qualitative and quantitative indicators or package accomplishments

IDENTIFICATION OF INFORMATION COLLECTION INSTRUMENTS

Although understanding and responding to the information needs of decision-makers is important to the usefulness of evaluation reports, the information that can actually be collected is largely determined by those who have the information -- students, parents, Resource Persons, and so on. The time that these people can reasonably be expected to devote to responding to requests for information, and their willingness and ability to provide it, will be important determiners of the information value. The kinds of analyses permitted by the collected information, and the financial and staff resources available to those with evaluation responsibilites, will have an important bearing on the interpretation of the information.

The decisions about data collection instruments and procedures to be used are probably the most important ones to be made in planning an evaluation study. The evaluator must employ his specialized professional training and experience as these decisions are made, because there is not yet any good system for classifying tests and other procedures in relation to educational goals, objectives, and processes. Further, developed procedures often do not exist for many important aspects of schools, particularly when new programs are being introduced. Thus, the importance of professional judgments by the evaluator cannot be stressed too much.

At the same time, the decisions about procedures are too important to the program staff to be made only on the basis of the experience of the evaluator. In the final analysis, the information collection procedures define the program outcomes being evaluated, and the Program Director and staff have an equal professional responsibility for the decisons. Compromises will have to be made as actual procedures are chosen to give an operational definition to the appropriate content categories. Whatever the decision-making structure is at a given site, it should be quite clear that no one person or group can make all these decisions unilaterally.

In considering the issues of what information should actually be collected, it is necessary to make a transition from the decision-maker orientation -- what information should ideally be obtained -- to a respondent-group orientation -- what information can be obtained. Exhibits 7-13 (pp. 42 - 45) have been

prepared to illustrate one way of making this transition. There is a separate exhibit for each major group of respondents. For example, Exhibit 7 provides general specifications for the kinds and content of information that might be obtained from students. Exhibit 8 provides general specifications for information that might be obtained from parents. The remaining exhibits are directed to school files, resource people, school staff, district office staff, and school constituents. The following discussion amplifies the headings and content of these exhibits.

Procedures and Content

The first column in each of these exhibits is organized in terms of the possible procedures that might be used, and is directly related to the last column of Exhibits 4-6. The second column includes descriptor terms for the information content that might best be obtained using each of the procedures. The listings of content descriptors that appear in the second column are intended to be just what the name implies, short-hand descriptors of content categories. They are defined in a glossary at the end of this chapter.

The content descriptors used in this handbook were developed to provide a comprehensive, meaningful classification of the procedures and outcomes of the FWL-EBCE model as presented in the other handbooks prepared for adopters. These should be useful as a starting point for judgments. It is evident, however, that these descriptors vary greatly with respect to specificity. Their meaning and implications for a particular adopting site will have to be further refined. Some adopters may not find all the content categories used here to be of interest; they may also concude that additional ones are necessary for the program as installed at the site.

The first and second columns (Possible Procedures and Content Descriptors) together may be the most important as a basis for reviewing available instruments, or considering the specifications for instruments that have to be developed. They should be helpful in thinking about such questions as:

- What are the most important areas for which we should solicit opinions for the various groups of respondents?
- What are the important areas for which we should obtain objective data relevant to accomplishments and outcomes?

- What are the topics or questions that should be covered in interviews with students, parents, and other people?
- What areas can be more easily or more economically assessed using opinion items or self-ratings instead of interviews?
- Will students have sufficient time and interest to provide all the objective information that would be ideal?
- Will parents have the time and be willing to respond to all the opinion questions that are indicated as interesting?
- Will there be sufficient staff time to get all the desired information from the program files?
- Can we analyze and summarize all the information that would be obtained using various procedures?

Obviously, many of these questions are related to the possible need to make compromises between what would be ideal and what is possible -- to establish additional priorities for information collection. It should be noted, however, that the material in Exhibits 7-13 itself reflects the application of some information priorities, which may not be appropriate in a particular EBCE program setting. For example, no opinions or other information about students is requested from EBCE staff or Resource Persons, since relevant data could be summarized from what is included in student files as a by-product of the learning process. This assumes that the information is routinely included in the files, and that evaluation staff will have the time to pull the detailed data from the files and summarize it for each student. If this assumption is not correct, then it may be necessary to ask LCs and others to provide summary ratings, opinions, and so on.

In general, these exhibits were organized to avoid seeking the same or similar information from two different sources, and to stay as close to the primary source as possible. This may not always be the best strategy; occasionally it may be useful to obtain similar information from two sources, in order to get independent assessment of particularly important features. To repeat what has been said several times before, these exhibits are presented as illustrations of one possible approach. If they seem helpful, it will be essential to recognize that variations will be required at any particular EBCE site.

Schedule and Information Users

The third column in Exhibits 7-13 shows the time or times when information relevant to the various content categories might be collected. In some instances, the same information content might be obtained at two different times, and both times are included. In other cases, there could be options for the time of collection, and several possible times are listed. The final decisions on the time for collection will depend, of course, on the design of the evaluation plan for a particular site. They are included in the exhibits simply because the schedule for collection is related both to information priorities, and to logistics required for obtaining or developing chosen instruments in time for their planned use.

The fourth column in Exhibits 7-13, Information Users, may also have a bearing on establishing information priorities. It will be recalled that the sketches in Chapter III indicated that various key groups would be interested in different levels of detail. If time or funds limit the amounts of various kinds of information that can be collected, then consideration may have to be given to the relative importance of meeting the needs of various groups, and to the amount of detail the more important groups will want.

Appendix Reference

The last column contains references to Appendix B, where questions, scores and forms used in the program, and descriptions of some published tests are presented. This appendix is organized by source of data (students, parents, etc.), type of information (opinion statements, documentation, etc.), and content focus (procedures, outcomes, skills, etc.). It will be noted that there may be no instruments or procedures for the assessment of some of the content descriptors used in Exhibits 7-13. Some of the descriptors are assessed by one or more questions or items grouped under a particular focus category in the appendix. Therefore, the appendix references in Exhibits 7-13 are shown only for major groupings of content descriptors, and in some instances there are not appendix references. Additional discussion of the uses of Appendix B and choice of specific instruments follows the seven exhibits.

EXHIBIT 7

POSSIBLE PROCEDURES, CONTENT, AND INSTRUMENTS TO OBTAIN INFORMATION

FROM

EBCE AND OTHER STUDENTS

Possible Procedures	Content Descriptors	When Collected	Information Users	Appendix Reference
Objective quantitative and qualitative indicators	Program goal outcomes Academic skills, knowledge Career/job knowledge Career decisions Decision skills Self-confidence/maturity Interpersonal skills Post high school progress	End of year Completion of program Various times after program completion	Board of Education District staff	B/13;B/19-21
Opinion items or scales	Program goal outcomes Academic skills, knowledge Career/job knowledge Career decisions Decision skills Attitude toward learning Self-confidence/maturity Interpersonal skills Post high school progress	End of year Completion of program Various times after program completion	District staff EBCE Program Director	B/8;B/13
	Operations efficiency (EBCE students only) Staff Resources Projects/packages Supplementary curriculum Integration of functions Planned project accomplishments Individual career goal progress Administrative progress/certification	End of semester End of year Completion of program	District staff EBCE Program Director	B/5-7;B/11
Narrative description by trained observers	Operations efficiency Staff Resources Projects-packages Supplementary curriculum Integration of functions Personalized outcomes	During school year	EBCE Program Director	--
Interviews Simulations Games	Program goal outcomes Academic skills, knowledge Career/job knowledge Career decisions Decision skills Attitude toward learning Self-confidence/maturity Interpersonal skills Post high school progress	End of year Completion of program	District staff EBCE Program Director	--

EXHIBIT 8

POSSIBLE PROCEDURES, CONTENT AND INSTRUMENTS TO OBTAIN INFORMATION

FROM

EBCE PARENTS

Possible Procedures	Content Descriptors	When Collected	Information Users	Appendix Reference
Opinion items or scales Ratings Interviews	*Constituent support* Program goals Program approach	*Before enrollment* After completion	*Board of Education* District staff	--
	Operations efficiency Staff Resources Projects/packages Supplementary curriculum Integration of functions Planned project accomplishments Individual career goals progress Administrative progress/ certification	End of year Completion of program	District staff Program Director	B/24
	Program goal outcomes Academic skills and knowledge Career/job knowledge Career decisions Decision skills Attitude toward learning Self-confidence/maturity Interpersonal skills Post high school progress	End of year Completion of program	District staff Program Director	B/25
Meeting records, minutes, other documents, self-reports	Community involvement Parent meetings General information	End of year	Board of Education District Staff	--

EXHIBIT 9

POSSIBLE PROCEDURES, CONTENT AND INSTRUMENTS TO OBTAIN INFORMATION

FROM

SCHOOL FILES

Possible Procedures	Content Descriptors	When Collected	Information Users	Appendix Reference
Tally forms and statistical tables derived from files	Students Demography	Prior to enrollment	Board of Education District staff	B/28
	Students Needs, interests, objectives Early departure factors	Periodically Departure point	Board of Education District staff	B/31-32
	Operations efficiency Staff Resources Projects/packages Supplementary curriculum Integration of functions Planned project accomplishments Individual career goal progress Administrative progress/ certification	End of semester End of year Completion of program	Board of Education District staff EBCE Program Director	
Narrative and statistical summary derived from files	Staff requirements Demography Qualifications Evaluation	End of year	Board of Education District staff	--
	Community involvement Advisory board Parent meetings External relations	End of year		--

EXHIBIT 10

POSSIBLE PROCEDURES, CONTENT AND INSTRUMENTS TO OBTAIN INFORMATION

FROM

RESOURCE PERSONS AND ORGANIZATIONS

Possible Procedures	Content Descriptors	When Collected	Information Users	Appendix Reference
Designed forms Interviews	Costs Resource contributions	As appropriate Completion of program End of semester End of year	Board of Education District staff	--
Opinion items or scales	Operation efficiency Staff Resources Projects/packages Supplementary curriculum Integration of functions Planned project accomplishments Individual career goals progress Administrative progress/ certification	As appropriate Completion of program End of year	District staff EBCE Program Director	B/34

NOTE: Some information obtained from "General Constituency" groups might also be appropriately obtained from some or all of the resource people and organizations.

EXHIBIT 11

POSSIBLE PROCEDURES, CONTENT AND INSTRUMENTS TO OBTAIN INFORMATION

FROM

EBCE AND OTHER SCHOOL STAFF

Possible Procedures	Content Descriptors	When Collected	Information Users	Appendix Reference
Opinion items or scales, Rating scales Interviews	Staff support Program goals Approach	As appropriate	Board of Education District staff	--
	Staff requirements (EBCE staff only) Demography Qualifications	As appropriate	Board of Education District Staff	
	Operations efficiency (EBCE staff only) Resources Projects/packages Supplementary curriculum	End of year	District staff EBCE Program Director	
Project Plans	Operations efficiency (EBCE staff only) Project accomplishments	Project completion	EBCE Program Director	--

EXHIBIT 12

POSSIBLE PROCEDURES, CONTENT AND INSTRUMENTS TO OBTAIN INFORMATION

FROM

DISTRICT OFFICES

Possible Procedures	Content Descriptors	When Collected	Information Users	Appendix Reference
Routine budget and cost reports	Costs and facilities Operating costs Capital expense Resource contributions	As appropriate	Board of Education District staff Funding agency	--
Designed or prescribed forms	Costs	As appropriate	District staff Funding agency	--
Interviews	Facilities requirements	As appropriate	District staff	--

EXHIBIT 13

POSSIBLE PROCEDURES, CONTENT AND INSTRUMENTS TO OBTAIN INFORMATION

FROM

SCHOOL CONSTITUENTS

Possible Procedures	Content Descriptors	When Collected	Information Users	Appendix Reference
Opinion items or scales Records of informational meetings	Constituent support Program goals Approach Community involvement Community awareness	As appropriate	Board of Education District staff	--

CHOICE OF INSTRUMENTS

The analysis of information collection procedures by groups of decision-makers (Exhibits 4-6) and by information sources (Exhibits 7-13) should be helpful in arriving at general specifications for information collection procedures and in establishing additional priorities for information collection. It might also be a sufficient basis for initiating a "do-it-yourself" instrument development activity. Unfortunately, the schedules for planning and introducing innovative programs in schools seldom allow time for on-site development of all the necessary instruments. It seems almost certain, therefore, that the final choice of instruments will require the use of locally developed instruments, instruments assembled by the evaluator drawing on a number of sources, and published instruments.

Tests or other instruments readily available for possible use which yield scores suitable for the most commonly used methods of data analysis are based on two major assumptions: that there is a defined set of objectives to which the tests can be developed; and that the educational experiences of the students to be tested are reasonably common for all students observed. These assumptions are made even for measures of the effects of "individualized" instruction, if the individualization is primarily in the rate of learning or total time required for mastery, rather than individualization of content. Such assumptions are, of course, contrary to the rationale for the EBCE program, in which the students establish their own learning objectives and are involved in learning activities that can be relatively unique to the student and objectives.

For these reasons there are few readily available instruments that are appropriate for the assessment of student progress or status on EBCE program-specific or program-free outcomes. One exception to this statement may be in the academic skills and content area, where overlap between the individual student objectives and the objectives to which the tests are developed may often occur. Even in these areas, however, where the EBCE approach is one of learning through application, the available skills tests may vary widely in their appropriateness; existing academic content area tests would be generally appropriate only for those students who have chosen particular courses as part of the special curriculum.

Given this situation, obtaining the most relevant EBCE outcomes information will require the development of some instruments and procedures specifically for the evaluation study. By far the largest part of Appendix B consists of items or instruments developed for the evaluation of EBCE programs in schools that have used or adapted the model developed by the Far West Laboratory. This material may be viewed as a pool of items for use in assembling instruments most directly relevant to the particular EBCE program being evaluated by a school district. Decisions regarding the choice of items from this pool will have to be based on judgments by the evaluator and/or program staff concerning the relevance of the item content to the program purposes, procedures, and information needs. The organization of Appendix B by information source and content descriptor is intended to facilitate this item review, choice, and assembly process.

Appendix B also includes descriptions of some published instruments for use with students. These are instruments judged to merit consideration for use in evaluation of EBCE programs, but which may not yet have been included in reference sources normally searched for instrument identification. This part of Appendix B is not intended to be an exhaustive catalogue of EBCE-relevant instruments. One of the most important responsibilities of the evaluator will be to search for and assemble information about other available instruments.

Special Issues in Instrument Selection

A discussion of technical and content considerations in the choice of instruments is clearly beyond the scope of this handbook. Textbook and more popular presentations on these topics are available in abundance. There are, however, some issues that merit particular emphasis in the application of these considerations to program evaluation, particularly for personalized experiential learning.

- The standards ordinarily applied in assessing the reliability of instruments for use with individual students are unnecessarily high for the choice of instruments for group and program evaluation. Given the range of EBCE goals and objectives, it is probably justifiable to obtain a broader sample of different kinds of performance than is ordinarily the case, at the expense of some reliability. Estimated within-grade reliabilities around .65 - .70 may be sufficiently high; in situations where there are large groups of students, even lower estimated reliabilities may be acceptable.

- Ideally, normative data for school classes, or groups of students with similar backgrounds and experiences, would be preferable to national normative data for individuals. In the absence of such data, student norms may have to be used, but the quality and representativeness of the national norm group is not as important for program evaluation as would be the case for interpretation of scores for individuals.

- The use of normative scores, such as grade placement or grade equivalents, is even less appropriate for program evaluation than for individual student assessment and description. Insofar as possible, statistical analyses and interpretations should be based on scores which have better measurement properties and which are more directly related to the content of the instruments.

- The use of instruments, either published or locally assembled, that are intended for, and administered to, groups of students is to some extent at variance with the assumptions underlying a personalized program. Attention should be given to the perceived and actual usefulness of the content to student development. When it is necessary to use instruments that students will not view as useful to them, the need for and importance of the information should be explained. In all cases, overt and covert indicators of student disaffection with particular instruments should be documented.

- If some of the program evaluation instruments are also seen as a source of information useful in student development, care should be taken to insure that the information is properly used and interpreted in the total context of information available for the student. Scores or other information should not be presented and discussed for isolated instruments, as is often done for standardized tests. This is particularly important if some of the standards for assessing instruments are established in terms of group rather than individual evaluation, as suggested above.

- The use of the same or parallel forms of an instrument at the beginning and end of a program may not be the most appropriate way to assess effects, particularly if student development is given weight in the choice of instruments. Instruments useful in initial assessment for student program planning may be more useful for program evaluation than an instrument designed to assess end-of-program status or progress. In some instances, such initial assessment instruments may be used as predictors of end-of-program status, thus permitting analysis of program effects in terms of deviations from the predictions.

- The reading difficulty of the instruments used may be even more important in a personalized experiential learning program than in a more conventional school program. Additionally, the content difficulty of academic skill and knowledge tests may be at least as important as the need for administrative uniformity in the choice of tests. Different students may need to be given tests at different levels of difficulty, where the scores have been placed on a common scale.

- In some situations, it might be possible to have various subgroups of students complete different parts of the total set of instruments. By eliminating the need for every student to complete every instrument, the total demand on student time will be reduced. This solution will not be feasible if there is a need to obtain comparable information from a large number of comparison group students enrolled in a conventional school program.

Each of the issues listed here could, of course, be elaborated at great length. Useful elaboration, however, must give attention to the specific situational circumstances; thus, they are probably best left as a list of suggestions that may or may not be useful for the evaluation of a particular EBCE program.

Finally, whatever the use to be made of the pool of items and instruments in Appendix B, procedures should be developed wherever possible to assess student progress and status in the more realistic context of the activities students pursue in their learning or are likely to be using their learning in the future. Simple counts of projects completed, credits earned, or reports and products completed inevitably omit consideration of the quality and complexity of the learning that has actually occurred. Newly developed procedures should probably depend heavily on face-to-face interviews of the kind students might have in the future, and perhaps the use of simulations and games, if such are known.

GLOSSARY OF CONTENT DESCRIPTORS

Staffing Requirements

Demographic descriptions: Personal characteristics that are essentially unchanging, can be easily categorized in a standard scheme, and are briefly and easily describable.

Levels and qualifications: Characteristics that could be expected to affect the way staff carry out their responsibilities as described in the relevant handbooks, and which would permit some summarization for groups of staff members.

Students Served

Demographic descriptions: See definition under Staffing Requirements.

Early departure factors: Considerations cited with some frequency that result in student decisions to transfer to other schools or programs, or to terminate their formal education prior to graduation from high school.

Needs, interests, and objectives: Considerations that led students to apply for enrollment in the EBCE program, or are influential in the development of project and long-term plans.

Resource Personnel

Demographic descriptions: See definition under Staffing Requirements.

Qualifications: See definition under Staffing Requirements. Resource requirements are defined more by the particular site characteristics than by the responsibilities stated or implied in the handbooks.

Costs and Facilities

Operating costs: The costs associated with the daily operations of the schools or programs as defined by the cost accounting procedures used by the adopting school district.

Capital expense: The costs associated with providing facilities and equipment which will be used over a period of years, as defined by the cost accounting procedures used by the adopting school district.

Facilities requirements: Space and equipment needed for the effective operation of the EBCE program or school.

Resource contributions: The estimated costs of the time and materials used by the Resource Persons or Organizations in working with EBCE students. In some instances, the estimated time and materials may not be convertible to dollar figures, but could be presented in terms of time or other units.

Community Involvement

Advisory board: The people, roles, or responsibilities identified in the appropriate handbooks.

EBCE parent meetings: Meetings of parents to provide program information, discuss program accomplishments and progress, or to solicit suggestions relevant to the EBCE program purposes and procedures. It would not include meetings with parents to discuss individual student problems and progress.

General community awareness: The kind of information that could be given through newspaper articles, presentations at service clubs, and so on. In some instances, the evaluation data provided might recount the activities employed to create awareness, rather than the level of awareness.

General Constituent Support

Program goals and approach: Opinions of adults not immediately associated with the EBCE program, and not employees of the school district, about the usefulness or acceptability of the goals of the program and/or the personalized experience-based approach of the program.

EBCE and Other Staff Support

Program goals and approach: Opinions of school district staff members about the usefulness and acceptability of the program goals and personalized experience-based approach. This might differ from general constituent support defined above by more detail on the rationale and philosophy underlying the model, and on the pedagogical strategies required. It would not include opinions of the EBCE staff about the efficiency of the specific procedures employed in the program; these are included as one of the kinds of indicators of operations efficiency defined below.

Operations Efficiency

Staff: The usefulness and viability of the various staff roles/activities and responsibilities as described in the relevant handbooks, and/or as actually performed in the operation of the school. In some instances this might also include summaries of time or other indicators of actual use of various staff resources by students.

Resources: Essentially the same as for Staff, but with reference to external Resource Persons and Organizations. There would probably be less emphasis on handbook descriptions of roles and activities and more attention to description of activities as performed and indicators of use of the various resources.

Projects/packages: Activities pursued by students in completing and implementing project plans. These activities might be described and classified in some way, or summarized by time and location, or simply by numbers of projects. The project activities may or may not be described also in relation to packages or their equivalents.

Supplementary curriculum: This would be essentially the same as for Resource Persons defined above. There would be variations in detail depending on the nature of supplemntary curriculum opportunities available and used by students.

Integration of functions: The extent to which the activities and experiences pursued by students at various internal and external locations are explicitly or implicitly related to each other to achieve student objectives.

Planned project accomplishments: Accomplishments in projects used by staff and Resource Persons to evaluate student progress according to criteria agreed to by the student. Most often these would be evaluated at the time of project completion.

Administrative progress and certification: Indicators of progress that would be used in satisfying administrative requirements with respect to credits awarded, required courses completed, advancement to another grade, or graduation from high school.

Individual Career Goal Progress

Indicators of progress toward achievement of the individual career-related goals identified by the student from time to time. Progress toward these individual goals is to be facilitated by completion of the projects planned by the students. Such progress is most likely to be indicated by student reports of self-perceptions.

Program-Goal Outcomes

NOTE: The content descriptors defined below have been derived from general program goal statements. They differ from the personalized outcomes implied under Operations Efficiency primarily because they could be achieved in a number of different ways. It would not be necessary to have made use of the project/package planning and completion approach to achieve these outcomes.

Academic skills and knowledge: Reading, oral and written communication skills, quantitative skills and other skills commonly required for continuing success in educational and most daily life settings; specific academic course content in various disciplines.

Career/job knowledge: Knowledge of requirements for entry and success in a career area or job, and of the potential rewards to be achieved and work or activities performed by people in the career or job.

Career decisions: The skills, self-understanding and knowledge required to assess career opportunities and make initial choices to enter or prepare to enter a career of potential interest.

Decision skills: Those skills necessary to identify problems, constraints, information sources, and alternative courses of action, and to identify potentially useful solutions.

Attitude toward learning: Readiness to take advantage of opportunities to increase general knowledge, or to learn new skills that are seen as necessary to achieve particular objectives.

Self-confidence/maturity: Willingness to enter new situations, seek new career opportunities, define new career/job goals and objectives and to initiate whatever actions seem necessary to attain them.

Interpersonal skills: Ability to approach previously unknown people and people of different cultures and background in ways that will result in positive responses from them; ability and willingness to function effectively as a member of a group working to achieve some implicit or explicit group purpose; ability and willingness to function as a leader of such a group in ways that will promote positive responses from the members of the group and result in progress toward the group purpose.

Post-high school progress: Advancement toward achievement of career goals and objectives by completion of stages required to achieve these.

CHAPTER V

ANALYSIS AND REPORTING OF DATA

It is almost a truism to say that data should be collected and analyzed to provide answers to questions that people have about a program. At the same time, it is probably quite realistic to say that the questions that can be answered at the end of an evaluation study are largely determined by the information available and the kinds of analyses that can be carried out with the available data.

The first four chapters of the handbook placed great emphasis on planning for information collection in response to the known or anticipated information needs and preferences of the users of the evaluation reports. The suggested approach, if followed, should result in the tentative specification of information collection instruments and procedures. These specifications must be considered only tentative, however, until the evaluation design and the data analysis plans have been considered. While design and analysis issues are very closely related to information collection procedures, decisions about the former (design and analysis) will be crucial in determining how the questions are stated. These decisions will also affect the confidence with which conclusions can be reached.

This chapter deals with three sets of issues: evaluation study design, planning for data reduction and analysis, and preparation of reports. As used here, these three terms mean:

> Design. Decisions about the groups of students for whom information will be collected and about the key points during the program at which various kinds of information are to be obtained. The student groupings will most often be determined by the kinds of educational experiences or programs the students have followed, and in most EBCE studies will imply the designation of groupings of non-student participants (parents, school staffs, Resource Persons) from whom information will be sought. The key points in the program will usually represent particular times or (time periods), but need not necessarily be the same times for all programs represented in the study.

Data Analysis. The procedures used for reducing and organizing the individual responses (e.g., opinion items, opinion scores, test scores) from all of the instruments in terms that provide meaningful descriptions of the performance or opinions of groups and sub-groups of respondents. This includes descriptions of the relationships among various kinds of measures or indicators, transformation of original measures to some more comparable scales, and the comparison of the responses of groups that differ in programmatically meaningful ways.

Report Preparation: The presentation and interpretation of the results of the analyses in ways that will incorporate knowledge of the program(s) being evaluated and that will be meaningful and useful to the users of the report(s).

As a final note of introduction to this chapter, evaluation planning can be viewed as a process that starts with the information needs and ends with an outline of the reports to be prepared at the conclusion of the study. Chapters III and IV moved through this process from the starting point; Chapter V can be viewed, in effect, as going to the end of the process and moving back to where Chapter IV stopped. If this suggests that evaluation planning is circular, with no real beginning and ending point, it is probably an accurate reflection of what it really is. In Chapter IV, mention was made of the need for a transition from a decision-maker orientation to a respondent orientation in order to make decisions about information collection procedures. This chapter deals with another transition point -- from a respondent orientation to a data analyzer orientation. The topics covered in this chapter essentially deal with the decisions and plans the evaluator will have to make to do his work.

DESIGN OF EVALUATION STUDY

Three possible study designs for collecting student data are shown in Exhibit 14. The principal distinguishing feature of the three designs is the educational program(s) of the student groups: Design 1 uses only students who are involved in an EBCE program; Design 2 uses a group of EBCE students, and one or more groups of students who are in comparable career education programs at the high school level; Design 3 uses EBCE students and a control group composed of students who are enrolled in any number of high school programs. For purposes of this presentation, it was assumed that students could enter the EBCE program at any of three different grades, and could continue until they

graduated from high school; and that if a design permitting comparison of EBCE with other programs were to be used, students could enter or be in the comparison programs for the same grades and times. Neither of these assumptions is crucial. They were used to illustrate multi-year designs with a need for both progress and final status information.

Each of the three designs will allow for developing answers to different but overlapping sets of questions. The major kinds of questions that can be answered with each design are listed in Exhibit 15. Even a very brief review of Exhibit 15 makes it evident that there are marked differences in the kinds of questions answerable by each of the designs. Some of the most important of these differences are discussed briefly below.

Design 1: EBCE Only

The first design will provide quite a large amount of information about the operation and effectiveness of the EBCE program; because it involves the collection of information from only one group of students under the responsibility of only one school administrator, it will yield the maximum amount of information for the time and funds devoted to evaluation. It will not, however, provide any information on the effectiveness of the EBCE program in comparison with other career education programs which might be more or less expensive than EBCE, or might be more or less easily expandable to include more students. Further, Design 1 will not provide any information on whether observed outcomes might be a function of increased age and maturity. In short, Design 1 could provide the most useful information about the operation of EBCE, but would not answer any questions about alternative career education programs, or about whether career education *per se* produces the observed changes in the students.

Design 2: EBCE and Comparable Career Education Programs

Design 2, obviously, will provide information on relative effectiveness of EBCE and other comparable career education programs and might provide some information for modification of all the career education programs. Information from this design, when combined with data on program costs, might even

permit some conclusions about relative cost effectiveness which would be of particular interest to the district staff and board of education. But this additional information would be gained at the expense of detailed information about the operation of the EBCE program, and about ways in which the program could be made even more effective. Nor will Design 2 provide empirical answers to questions about which career education accomplishments might result simply from increased age and maturity.

The use of Design 2 would, in almost every situation, require arrangements for collection of data in several different school settings. Thus, demands would be placed on the time of the evaluation personnel in seeking the understanding and cooperation of staff in one or more programs, arranging for the logistics of data collection, and insuring that staff in the several career education programs accept the reasons for and purposes of the information collection.

An additional issue associated with Design 2 of great importance is that of the meaning of the comparability of career-education programs. This issue has evaluation implications for procedures documentation, instrument bias, and data interpretation. It seems virtually certain that no two career education programs would have the same sets of common goals and objectives; the procedures employed to achieve the objectives of each program, therefore, should differ to some extent. If the objectives and procedures adopted by various programs could be viewed on a continuum, there would undoubtedly be a point where one would conclude that it is no longer meaningful to compare the programs empirically. Such a point could not be easily agreed upon, and a great deal of subjective judgment would be involved. Whatever the decision about program comparability, instruments chosen to assess program outcomes could easily favor one or the other program. The choice of instruments and designs that are essentially unbiased for any program being compared is a difficult one.

To illustrate this issue, suppose that a school district has three career education programs in operation. One is designed to increase the basic academic skills needed for post-high school employment, and employs practice and training on a range of materials developed from a task analysis of jobs available to high school graduates. A second program is designed to provide all graduates with a set of immediate job-entry skills; it provides a wide range of options within the vocational education curriculum for students to learn and practice skills relevant to one job family of their choice. A third pro-

gram is designed to provide some knowledge of the kinds of work done and skills required in a variety of jobs by arranging opportunities for students to observe and perform various jobs on site.

The first program should be shown as superior to the second, if a total score from an instrument intended to assess all of the traditional academic skills is used. That is what the first program is designed for. But the second program should result in greater gains in particular academic skills, if students were given only the tests in the particular skills they had practiced. Further, the second program should appear to be superior if instruments to assess non-academic skills were also used, simply because the first program was not designed to train students in non-academic skills. The use of academic and non-academic skills tests in a comparison of these three programs should show the third program to be much less effective than programs one and two, because the third program was not directed specifically to skills acquisition. But if a measure of job and career knowledge and interest were used, the third program might be expected to be superior to the first two. They were designed to achieve more specific and definable outcomes.

To summarize the illustration, the procedures employed in each of the three programs might in some abstract sense have been equally effective for the accomplishment of the particular program purposes, but since the purposes are different, there is no single instrument that can be used to test relative effectiveness. Instruments assessing academic skills would favor the first program; instruments measuring a range of job skills would favor the second program; instruments to assess general job and career knowledge and interest would favor the third program. Having all students complete all three kinds of instruments wouldn't resolve the conflict between program purpose and instrument bias. The "superiority" of a particular program would still be determined by which section of the instrument was considered, or by the relative weight given to a section in the calculation of a total score.

Design 3: EBCE and Control Group

The third design (EBCE and control group students) will provide information principally about the extent to which outcomes are attributable to the EBCE program *per se*. (In order to answer such questions with some degree of confidence, the procedures used in the selection of both the EBCE students and the control

group students is of crucial importance. This issue is discussed in more detail below). Very little detailed information can be obtained about the operation of the EBCE program, or about the programs pursued by the control group students. The answers to questions about EBCE effects compared with growth resulting from aging and school experiences in general can be obtained using Design 3, but at the cost of knowing what features of what programs produced the observed student growth.

The use of the EBCE vs. control group design will require time of the evaluation personnel in making arrangements, seeking cooperation and so on that were discussed in connection with Design 2. These demands may be very great if the control group students are in a number of schools, and the other school staffs have little or no interest in the EBCE evaluation study. The issues of common and unique goals, and instrument bias for one or more programs may be of even greater importance in Design 3 than was the case for Design 2. In short, Design 3 will provide answers to questions related to whether EBCE is accomplishing things that are not accomplished by regular school programs as a whole, but will provide virtually no answers to questions about the operation of EBCE or other programs.

Implications of Design Choices

The three designs and sets of related questions presented in Exhibits 14 and 15 are essentially "pure" designs; that is, they were prepared to illustrate three sets of quite different approaches to defining what questions might be answered. Any evaluation study at a particular EBCE site will have to use modifications of these designs dependent on the interests, resources and constraints under which a given program is operating. In fact, it seems most likely that at least the rudiments of some combination of these designs would be used, and any combination should involve some features of Design 1, in order to obtain information about program operation and possibilities for its improvement. For example, a district may have a cooperative work experience program available to students in the 12th grade. If so, Design 1 for EBCE might be used in combination with Design 2 to compare students who enter the EBCE program in the 12th grade with those who enter the cooperative work experience program. Or, Design 1 might be carried out using all students enrolled in the EBCE

program, but a small control sample of students from all other high schools in the district (Design 3) chosen for use in conjunction with some of the data analysis possible for Design 1.

The kinds of questions answerable using Design 1 will generally be the ones of greatest interest to school staffs and others directly involved in the implementation, operation and funding of the EBCE program, who may have relatively little interest in the Design 2 questions, and virtually no interest in Design 3. The questions answerable using the second design are most likely to be those of interest to district staff and board of education members who have to make decisions about the kinds of programs to be offered in the future. The Design 2 questions may also be of special interest to district staff and funding agency personnel who are interested in career education in general, or who have particular interests in career education programs other than EBCE. These people may have some interest in the questions answerable using Design 3, but if resources and time limit the complexity of possible evaluation designs, the Design 3 questions would probably be of lesser importance. The questions answerable using Design 3 will, however, be of great interest to those people who have a scientific research orientation to the improvement of education. They may also be asked by those who wish to stress educational goals other than those to which career education is addressed.

The categorization of questions of interest to various groups suggested in the previous paragraph is, of course, somewhat artificial. No one person or group is interested only in one kind of question. The need for combinations of designs might be assessed by consideration and ordering of the questions of interest to various groups, with a subsequent matching of these with the questions listed under each design in Exhibit 15. The final choice of a particular design can then be made by an analysis of the trade-offs necessary to maximize the number and importance of questions answerable for the investment of a given amount of evaluation effort and funds.

EXHIBIT 14

THREE DESIGNS FOR

STUDENT

INFORMATION COLLECTION AND ANALYSIS

Program Stages	Design 1: EBCE Only			Design 2: EBCE and Comparable Career Education Program(s)						Design 3: EBCE and Control Group Students					
	EBCE			EBCE			Other Career Education			EBCE			Control Group		
Grade at Entry	10	11	12	10	11	12	10	11	12	10	11	12	10	11	12
A. Recruitment/Application															
1. Demographic and background information	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
B. Program Entry															
1. Status on program-goal outcomes indicators (#1)	X	X	X												
2. Individual needs, interests and objectives (#2)	X	X	X	X	X	X				X	X	X			
3. Readiness for use of program opportunities (#3)	X	X	X	X	X	X	?	?	?	X	X	X			
C. Program Operations During the Year															
1. Documentation of student use of opportunities (#4)	X	X	X	X	X	X	?	?	?	X	X	X			
D. Personalized Accomplishments (#5)	X	X	X												
E. End-of-year Progress Toward Program Goals (#6)															
1. End of first program year	X	X		X	X		X	X		X	X		X	X	
2. End of second program year	X			X			X			X			X		
F. End of School Program Goal Outcomes (#6)															
1. One year in program (First program-year)			X			X			X			X			X
2. Two years in program (Second program-year)		X			X			X			X			X	
3. Three years in program (Third program-year)	X			X			X			X			X		

X = Information would be collected; ? = Information might be collected, if relevant for other programs; blanks = no information collected

1. Student characteristics to be assessed at this stage in Designs 2 and 3 will depend on the goals for the comparable programs, the ways in which the student samples are chosen, and the relevance of demographic, background and students needs data to the program outcomes.

2. For EBCE students, these could be assessed by independent analysis of planning forms, or by LC judgments at the end of the orientation period. If other programs are not personalized, these data may not be necessary for the non-EBCE students.

3. Students might be grouped with respect to readiness on the indicators of self-confidence/maturity used in assessment of initial status on these program-free outcomes. EBCE students could also be grouped by LCs at the conclusion of the orientation period. If non-EBCE programs do not require students to function in new environments, or are highly structured, indicators of readiness may not be relevant.

4. For EBCE students, uses of program resources might be assessed from project report forms, or by LCs and resource people. The procedures for describing student uses of program features in other programs will depend on the nature and similarities of the other programs.

5. For EBCE students, these could be assessed periodically during the year as appropriate for each student. For other programs, the time and nature of this assessment would depend on the structure and organization of the particular program(s).

6. Program goal outcomes as defined in this Handbook have been derived from the EBCE program goals. Other career education programs may share some, but not all, of these goals, or may have additional goals. The goals for students in control groups drawn from a range of programs may also overlap some of the EBCE goals, but have a large number that are unique. For Designs 2 and 3, program-
those that are unique to each of the several programs, or some allowance made for differential weighting of the goals in the interpretation of the data.

EXHIBIT 15

MAJOR KINDS OF QUESTIONS ANSWERABLE WITH THREE DIFFERENT DESIGNS

FOR

STUDENT INFORMATION COLLECTION AND ANALYSIS

Design 1: EBCE Only	Design 2: EBCE and Comparable Career Education Program(s)	Design 3: EBCE and Control Group Students
1. How effective for the achievement of personalized goal and program outcomes is the EBCE program in responding to the needs, interests and objectives of individual students? In one year? Over several years? (B=2; E=1, 2; F=1, 2, 3)	1. Not answerable within practical limits of time and funds available for most evaluation studies.	1. Not answerable because of the variety of possible objectives relevant to the many programs represented.
2. Is effectiveness in achievement of personalized goal and program outcomes a function of initial status on outcome indicators? Of readiness for use of the program? (B=1, 3; D; E=1, 2; F=1, 2, 3)	2. Not answerable within practical limits of time and funds available for most evaluation studies.	2. Not answerable because of the variety of programs represented.
3. Is the EBCE program differentially effective for different program goal outcomes as a function of age/grade at entry? Of pre-program experience and background? Of individual objectives? (A=1; B=2; E=1, 2; F=1, 2, 3)	3. Are the programs differentially effective for different program goal outcomes as a function of pre-program experience and age/grade at entry?	3. Same as for Design 2.
4. Is program effectiveness related to differential use of internal and external resources? (C=1; D; E=1, 2; F=1, 2, 3)	4. Is program effectiveness related to differential use of internal and external resources? (Answerable only if differential use of resources is meaningful for other career education programs.)	4. Not answerable because differential use of resources would not be meaningful for all programs represented in the control group.
5. Are differential uses of resources related to student readiness for the program? Individual student objectives? Length of time in the program? (B=2, 3; A=1; C=1)	5. Are differential uses of resources in each program related to program readiness and length of time in program? (Answerable only if differential use of resources is meaningful for other programs.)	5. Not answerable because differential use of resources would not be meaningful for all programs represented in the control group.
6. Is progress toward program-free outcomes as predicted on student objectives and readiness simply a function of time in the program, or is it a more complicated relationship? (B=2, 3; E=1, 2; F=1, 2, 3)	6. Is progress toward program-free outcomes simply a function of length of time in the program, or is it a more complicated relationship?	6. Same as for Design 2.
7. Is progress toward outcomes in one year useful for program planning in subsequent years? (E=1, 2; C=1)	7. Same as Design 1.	7. Not answerable within practical limits of time and funds available for most evaluation studies.
8. Are program-specific accomplishments related to annual progress and final status with respect to program-free outcomes? (D, E=1, 2, F=1, 2, 3)	8. Not answerable within the practical limits of time and funds available for most evaluation studies.	8. Not answerable within practical limits of time and funds available for most evaluation studies.
	9. Are EBCE and other career education programs differentially effective for indicators of common goal achievement. For indicators of goals defined as unique to each program? (B=2, 3; E=1, 2; F=1, 2, 3)	9. Same as for Design 2, but with fewer common goal indicators. Unique goal indicators for the variety of programs represented in the control group may be too program-specific to permit meaningful answers with respect to unique goals.
	10. What differences in student backgrounds, objectives and career education readiness operate in student selection of or assignment to different career education programs? (A=1; B=3)	10. Not answerable because of the variety of programs and student selection factors represented in the control group.
	11. Do the student selection factors interact with the achievement of common and unique goal indicators? (A=; B=3; E=1, 2; F=1, 2, 3)	11. Not answerable for reasons cited under questions 9 and 10.
		12. Is apparent EBCE effectiveness a function of increased experience and other factors that develop with age? (A=1; E=1, 2; F=1, 2, 3)

Alphabetic-numeric characters appearing in parentheses refer to the program stage designations shown in Exhibit 14.

Related Non-Student Data Designs

The descriptions of evaluation designs based on student groupings have parallel implications for the collection of information from others besides students. Exhibits 16, 17 and 18 present designs for three groups of the non-student respondents who would most likely be included in any evaluation study. In each case, the number of times these non-student respondents would be asked to provide information has been intentionally limited, on the assumption that imposition on their time should be held to a minimum. It should also be noted particularly that extensive student evaluation information from staff and resource personnel would be obtained from EBCE student files; it is assumed that appropriate relevant information would also be available from student files in other career education programs, and for programs represented in the control group. Additionally, non-obtrusive methods of assessing parent opinions should also be used, as suggested in Exhibit 8 (Chapter IV).

The questions answerable using each of the three designs for obtaining non-student information are listed in Exhibits 19, 20, and 21. Obviously, all the comments made about the choice of combinations of designs for student information collection would affect any choice of design for non-student information.

EXHIBIT 15

MAJOR KINDS OF QUESTIONS ANSWERABLE WITH THREE DIFFERENT DESIGNS

FOR

STUDENT INFORMATION COLLECTION AND ANALYSIS

Design 1: EBCE Only	Design 2: EBCE and Comparable Career Education Program(s)	Design 3: EBCE and Control Group Students
1. How effective for the achievement of personalized goal and program outcomes is the EBCE program in responding to the needs, interests and objectives of individual students? In one year? Over several years? (B=2; E=1, 2; F=1, 2, 3)	1. Not answerable within practical limits of time and funds available for most evaluation studies.	1. Not answerable because of the variety of possible objectives relevant to the many programs represented.
2. Is effectiveness in achievement of personalized goal and program outcomes a function of initial status on outcome indicators? Of readiness for use of the program? (B=1, 3; D; E=1, 2; F=1, 2, 3)	2. Not answerable within practical limits of time and funds available for most evaluation studies.	2. Not answerable because of the variety of programs represented.
3. Is the EBCE program differentially effective for different program goal outcomes as a function of age/grade at entry? Of pre-program experience and background? Of individual objectives? (A=1; B=2; E=1, 2; F=1, 2, 3)	3. Are the programs differentially effective for different program goal outcomes as a function of pre-program experience and age/grade at entry?	3. Same as for Design 2.
4. Is program effectiveness related to differential use of internal and external resources? (C=1; D; E=1, 2; F=1, 2, 3)	4. Is program effectiveness related to differential use of internal and external resources? (Answerable only if differential use of resources is meaningful for other career education programs.)	4. Not answerable because differential use of resources would not be meaningful for all programs represented in the control group.
5. Are differential uses of resources related to student readiness for the program? Individual student objectives? Length of time in the program? (B=2, 3; A=1; C=1)	5. Are differential uses of resources in each program related to program readiness and length of time in program? (Answerable only if differential use of resources is meaningful for other programs.)	5. Not answerable because differential use of resources would not be meaningful for all programs represented in the control group.
6. Is progress toward program-free outcomes as predicted on student objectives and readiness simply a function of time in the program, or is it a more complicated relationship? (B=2, 3; E=1, 2; F=1, 2, 3)	6. Is progress toward program-free outcomes simply a function of length of time in the program, or is it a more complicated relationship?	6. Same as for Design 2.
7. Is progress toward outcomes in one year useful for program planning in subsequent years? (E=1, 2; C=1)	7. Same as Design 1.	7. Not answerable within practical limits of time and funds available for most evaluation studies.
8. Are program-specific accomplishments related to annual progress and final status with respect to program-free outcomes? (D, E=1, 2; F=1, 2, 3)	8. Not answerable within the practical limits of time and funds available for most evaluation studies.	8. Not answerable within practical limits of time and funds available for most evaluation studies.
	9. Are EBCE and other career education programs differentially effective for indicators of common goal achievement. For indicators of goals defined as unique to each program? (B=2, 3; E=1, 2; F=1, 2, 3)	9. Same as for Design 2, but with fewer common goal indicators. Unique goal indicators for the variety of programs represented in the control group may be too program-specific to permit meaningful answers with respect to unique goals.
	10. What differences in student backgrounds, objectives and career education readiness operate in student selection of or assignment to different career education programs? (A=1; B=3)	10. Not answerable because of the variety of programs and student selection factors represented in the control group.
	11. Do the student selection factors interact with the achievement of common and unique goal indicators? (A=; B=3; E=1, 2; F=1, 2, 3)	11. Not answerable for reasons cited under questions 9 and 10.
		12. Is apparent EBCE effectiveness a function of increased experience and other factors that develop with age? (A=1; E=1, 2; F=1, 2, 3)

Alphabetic-numeric characters appearing in parentheses refer to the program stage designations shown in Exhibit 14.

Related Non-Student Data Designs

The descriptions of evaluation designs based on student groupings have parallel implications for the collection of information from others besides students. Exhibits 16, 17 and 18 present designs for three groups of the non-student respondents who would most likely be included in any evaluation study. In each case, the number of times these non-student respondents would be asked to provide information has been intentionally limited, on the assumption that imposition on their time should be held to a minimum. It should also be noted particularly that extensive student evaluation information from staff and resource personnel would be obtained from EBCE student files; it is assumed that appropriate relevant information would also be available from student files in other career education programs, and for programs represented in the control group. Additionally, non-obtrusive methods of assessing parent opinions should also be used, as suggested in Exhibit 8 (Chapter IV).

The questions answerable using each of the three designs for obtaining non-student information are listed in Exhibits 19, 20, and 21. Obviously, all the comments made about the choice of combinations of designs for student information collection would affect any choice of design for non-student information.

EXHIBIT 16

THREE DESIGNS

FOR

PARENT INFORMATION COLLECTION AND ANALYSIS

Program Stages	Design 1: EBCE Only	Design 2: EBCE & Comparable Career Ed. Programs	Design 3: EBCE & Control Group Students
Student recruitment/application	X	X	
End of year: First year in program	X	X	X
Second year in program	X	X	X
End of school	X	X	X

EXHIBIT 17

THREE DESIGNS

FOR

PROGRAM STAFF INFORMATION COLLECTION AND ANALYSIS

Program Stages	Design 1: EBCE Only	Design 2: EBCE & Comparable Career Ed. Programs	Design 3: EBCE & Control Group Students
Program planning	X	?	
Program operations during year	X	X	?
End of year: First program-year	X	X	?
Second program-year	X	X	
Third program-year	X	X	?

EXHIBIT 18

THREE DESIGNS

FOR

EXTERNAL PROGRAM PARTICIPANTS INFORMATION COLLECTION AND ANALYSIS

Program Stages	Design 1: EBCE Only	Design 2: EBCE & Comparable Career Ed. Programs	Design 3: EBCE & Control Group Students
Planning	X	?	
Program operations during year	X	?	
End of year: First participating year	X	?	
Second participating year	X	?	
Third participating year	X	?	

The collection of information from external program participants under Design 2 would depend on whether the structure of one or more of the other career education programs included the use of such participants.

EXHIBIT 19

MAJOR KINDS OF QUESTIONS ANSWERABLE WITH THREE DIFFERENT DESIGNS

FOR

PARENT INFORMATION COLLECTION AND ANALYSIS

Design 1: EBCE Only	Design 2: EBCE and Comparable Career Education Program(s)	Design 3: EBCE and Control Group Students
1. Do parents of prospective and/or enrolled students support the EBCE goals, outcomes, approach and procedures as potentially helpful for their children?	1. What is the extent of acceptance and support for the goals, outcomes, approaches and procedures of each of the programs being compared?	1. What is the extent of support for the goals and procedures of the program (EBCE or other programs) in which the students are or were enrolled?
2. What do parents expect or hope their children will achieve as a result of participation in EBCE?	2. Do parents of students in different career education programs have different expectations or hopes for student achievement?	2. Same as for Design 2, but probably at a much more general level of achievement.
3. What do parents think about the helpfulness to their children of the various internal and external resources and procedures? Does the program appear to work as the parents think it should?	3. Do parents of students in different career education programs have different perceptions of the helpfulness of the program procedures and of the ways in which the program appears to be working?	3. Not answerable within practical limits of time and funds available for most evaluation studies.
4. What do parents know about the project and personalized accomplishments of their children? Did the parents see evidence of student progress during the year? From one year to the next?	4. Are there differences among the programs in the extent to which parents know about actual accomplishments of the students, as opposed to knowing about grades? Are there differences in the extent to which they see evidence of student progress during the year? From one year to the next?	4. Same as Design 2, perhaps with some variation depending on the nature of student evaluation in control group programs.
5. Do parents think their students are making progress toward desired program goal outcomes at the end of the first year? At the end of the second year?	5. Are there differences among the programs in the extent to which parents think their children are making progress toward the intended program goal outcomes?	5. Same as for Design 2, to the extent that there are common program goal outcomes for EBCE and the variety of programs represented in the control group.
6. What program goal outcomes resulted from participation in the EBCE program?	6. Are there differences among the programs in the extent to which parents think the program goal outcomes were achieved at the end of the school experience?	6. Same as Design 2, to the extent that there are common program goal outcomes.
7. Do parents think their children are prepared to pursue the first post-high school stage in career development, and have a clear idea what this should be?	7. Are there differences between programs in the extent to which students are prepared for post-high school activities?	7. Same as Design 2.

EXHIBIT 20

MAJOR KINDS OF QUESTIONS ANSWERABLE WITH THREE DIFFERENT DESIGNS

FOR

PROGRAM STAFF INFORMATION COLLECTION AND ANALYSIS

Design 1: EBCE Only	Design 2: EBCE and Comparable Career Education Program(s)	Design 3: EBCE and Control Group Students
1. Do EBCE staff members support the goals, approaches, rationale and philosophy underlying the program?	1. To what extent do staff in different career education programs accept and support the goals and approaches of each of the several programs?	1. To what extent do the staff in the EBCE program and programs represented in the control group accept and support the goals and approaches employed in the several programs, including EBCE?
2. What are the staff judgments about the operation of the various program elements as implemented? Are there major elements that should be eliminated or extensively revised?	2. Are there differences among staff of different career education programs about the operation of programs as implemented? Are these differences related to the differences in goals of the programs?	2. Not answerable because of the variety of programs represented in tne control group.
3. Are the separate elements or features of the program well integrated, so that the student takes advantage of all the opportunities that are appropriate for him?	3. Do the staff of the different programs differ in the extent to which they think students' total school experiences are integrated?	3. Not answerable because of the variety of different programs represented in the control group.
4. What does the staff think the students individually and as a group accomplished during the year? On what program goal outcomes was the greatest progress made? On what ones was the least progress made?	4. Are there differences among the staff of different programs in the extent to which they think progress was made with respect to common and unique program outcomes?	4. Not answerable within the practical limits of time and funds available for program evaluation.
5. Are there planned program goal outcomes that are not likely to be achieved by students during the first year in the program? In two years in the program?	5. Are there differences among program staff in the extent to which they see the programs as likely to aid in achieving particular program goal outcomes?	5. Not answerable, except at a very general level of outcomes, because of the variety of programs represented in the control group.

EXHIBIT 21

MAJOR KINDS OF QUESTIONS ANSWERABLE WITH THREE DIFFERENT DESIGNS

FOR

EXTERNAL PROGRAM PARTICIPANTS INFORMATION COLLECTION AND ANALYSIS

Design 1: EBCE Only	Design 2: EBCE and Comparable Career Education Program(s)	Design 3: EBCE and Control Group Students
1. What are the opinions of external program participants of various kinds about EBCE program goals, approach and procedures?	1. Are there differences in opinions of various non-staff persons involved in this instruction process about the purposes and approach of the various career education programs? (This question is answerable only if the other career education program makes extensive use of non-staff people in the instructional process).	1. Not generally answerable
2. Can EBCE resource people cite evidence of student achievement as a result of time spent at the resource site?	2. Can resource people make judgments about individual student progress? And if so, are there differences between programs in judgment about progress?	2. Not answerable.
3. What rewards and satisfactions do resource persons cite for participation in EBCE and are these sufficient for continued involvement?	3. Are there differences among participants in programs with respect to rewards and satisfaction and continued participation?	3. Not answerable.
	4. Do the judgments of resource people who have participated in several kinds of career education programs differ with respect to relative merit?	4. Not answerable.

DATA ANALYSIS ISSUES

A discussion of specific procedures for handling and analyzing information collected in an EBCE evaluation study is clearly beyond the scope of this handbook, and in any case would require too many assumptions about the issues relevant to data analysis which are of particular importance in light of the characteristics of the EBCE program. There are, however, some general issues that do merit discussion. The importance of these issues stems from the fact that the EBCE program puts such great emphasis on personalization of the educational program, and places a large share of the responsibility for student learning on the individual student.

Student Sample Selection

If the results of evaluation studies are to contribute to program decision making, there is at least an implicit assumption that the students used in the study are representative of one or more groups of students who would be enrolled in the programs in the future. This assumption may be, at best, only partially justified if program participation is voluntary or based on staff decisions during the first or second year. It is important, therefore, that attention be directed to obtaining information that will be useful for assessing the effect of student selection (administrative and/or self-selection) on the outcomes of the evaluation study.

In extreme cases, the selection of students might be nearly the sole determiner of the outcomes. For example, if the new program were seen by some school staff as a good place to transfer students who had created special discipline problems in the past, it may be that the procedures of the new program could be overwhelmed by the need to deal with the special non-educational problems. Or alternatively, if many of the students were simply looking for something different to do, it is possible that they would enjoy the first or second year of any program, regardless of content and procedures, simply because it is different.

Evaluation Design 2. The comments made in the two preceding paragraphs are, of course, generally true for any program-related information collected about students. The problem of sample selection in evaluation studies becomes particularly acute, however, if information is obtained for students in two or

more programs that are being "compared." It seems most unlikely that students in programs that differ in purposes, or procedures, or both would be representative of a single group of students who might enroll in the future. The outcomes and effects that are observed for the different programs could be in good measure determined by the characteristics of the students enrolled in each program rather than by the program processes *per se*. In theory, at least, each program might be the best possible for the kinds of students enrolled in the particular program, and no comparison would be meaningful.

There is no way of understanding the interaction of student characteristics and program processes other than completely random assignment of students and staff to different programs. Such random assignment would have to ignore presumably important student and teacher characteristics and motivation. It might yield statistically neat results, but they would be largely useless results. The interpretation of data from any study involving comparisons where the students in the different programs are or could be considered to be different in important ways places a heavy emphasis on well informed "expert" judgment. These judgments should be acknowledged in any report interpreting the data, and insofar as possible the considerations on which they are based should be described and documented. No amount of statistical sophistication can really cover up the fact of personal judgment in the interpretation; and the analysis required by statistical sophistication does require a heavy and unnecessary investment of time and money.

Evaluation Design 3. In some situations it may be appropriate, or required, that a control group of students in "conventional" school programs be used as a basis for judging the changes accomplished as a result of enrollment in a new or experimental program. There are many reasons for recommending the use of experimental and control groups in evaluation studies; the major one is the logical soundness of randomizing the effects of all the variables in student performance that can not be explicitly controlled. Closely related to this is the fact that the assumptions underlying statistical inference (as opposed to statistical description) are based on random distributions. Thus, the statistical criteria for decision making are strictly applicable only if students are assigned at random to the EBCE and control groups. Without random assignment, Design 3 becomes just a very extreme version of Design 2.

The term "control group" has often been used for what are really "comparison groups." For control group outcomes to be useful as a criterion for judging effectiveness of an experimental program it must be possible to assign students at random to the experimental or control group. If the new or

experimental program is one for which students must apply, or otherwise indicate a particular interest, then the total group of applicants must constitute the pool from which the random assignment to experimental and control groups must be made. Detailed procedures for the random assignment of students to different treatment groups being compared are available in a number of educational statistics books.

In principle, random sampling procedures are relatively simple. But their application in a world that involves parents, transportation, different administrative units, and unusual student problems, can be time consuming and frustrating. Careful definition and description of populations, samples, and sampling procedures are required. Inevitably, there will have to be some individual exceptions made during the process of student recruitment, selection, and assignment to groups. In an evaluation study requiring the use of experimental and control groups, it will probably be necessary to allow for a third group -- the administrative exceptions. The reasons for these exceptions should be documented; insofar as possible, information should be obtained from the students that will allow for assessment of the effects of the exceptions on the study results.

While there are good reasons for the use of random experimental and control groups in educational evaluation, such a design implies at least three sets of important assumptions. The reasonableness of these assumptions should be considered in reporting the results of a study employing such a design. The first of these is the implicit assumption that the educational programs for both the experimental and control groups are equally well designed and conducted to do whatever they are doing, and that any student will be equally well motivated and able to learn from the program. The second assumption is that the random assignment of a student to an experimental or control program has no effect on his or her performance, even though he or she applied for admission to the experimental program. The third is that the staff (and resource people) in all programs are equally interested and prepared to carry out the program in which they are employed.

These are all complex assumptions that could be discussed in considerable detail. They will not be because of space limitations. But it seems quite safe to say that none of them will be completely satisfied. It can not be assumed in education that control group students have a placebo that would operate in the same way for all students and staff. For a really good study, the procedures

employed with the control group should be as fully documented as are those employed for the experimental group. The effects on volunteer students of being placed in a control group instead of the program of their choice should be studied at the time of selection. And the interests and motivations of the staff in all programs should be known and described.

Factors Affecting EBCE Outcomes

In any instructional program, the outcomes that students might reasonably be expected to achieve will vary depending on student characteristics at the time of program entry. As mentioned several times in preceding chapters, this truism is even more true if instruction is personalized or individualized. Such programs are designed to capitalize on individual differences. The importance of such differences is considerably increased if the personalized program employs markedly different procedures requiring new behavior and learning strategies on the part of the students. Any evaluation of the EBCE program being introduced in a school setting must give attention to the individual variation in student characteristics of those who enroll in the program.

Nearly all of the factors that affect student achievement in a "conventional" school program probably operate also in an EBCE program. Ideally, these would be assessed and utilized in an EBCE evaluation study. There are three groups of important factors that are of unique importance in an EBCE evaluation study. These are discussed briefly below.

EBCE Readiness. Students entering the EBCE program will vary greatly in the extent of their readiness to assume responsibility for planning their own learning programs and for carrying out these plans. For example, some students will have very definite ideas about career interests and their objectives for preparation to enter these careers; others will have only the vaguest idea -- or no idea -- about what they are interested in, and their objectives may center around broad career exploration. Some students will have the self-confidence, maturity and intepersonal skills that will make it very easy for them to approach Resource Persons, and to take full advantage of the opportunities available through the external resources; others may require a semester in the EBCE program, and extensive support from the LC, before they are ready to make their first approach to an external Resource Person.

The LC roles and activities are designed to recognize and respond to these differences among the students. Clearly, these differences will be important determiners of the rate of progress and end-of-year or end-of-school status on the outcomes measures or indicators.

Plans for the analysis of outcomes data in the evaluation of the program should include procedures for adjustment of the outcomes measures for differences in program readiness. If the data permit, such an adjustment might be made statistically. Some of the published instruments described in Appendix B might be appropriate as indicators of readiness rather than, or in addition to, being indicators of outcomes, and permit statistical adjustments. An alternative procedure might be to have students rated or grouped in terms of readiness relatively early in the program by LCs or other staff on the basis of all the student data and what they (the LCs) have learned about each student in their individual conferences. Such groupings could be used as a base for organization of outcomes data at the conclusion of the year or program.

Individual Needs, Interests and Objectives. Since learning in the EBCE program is to be planned in terms of student perception of personal needs and objectives, it seems clear that outcomes should depend in large measure on what the student planned to learn. For example, if one student wished to explore a number of social service career areas, and another wished to develop skills and gain experience in the graphic arts area, the anticipated outcomes for these two students should be quite different, assuming the program to be equally successful for both students. Further, it might be expected that the former student would be more likely to show a greater increase in several academic skills and content areas than would the latter, where the skills might be much more specific.

Plans for the analysis of outcomes data should include procedures that would allow for the differences in student interests and objectives. However, a particular problem in such planning is the fact that the program should provide students with opportunities to clarify and revise their identified interests and objectives on the basis of experience. The analysis plans should provide for some initial student grouping on the basis of overlapping objectives -- perhaps using the program outcomes content descriptors -- and should also allow for some indicator of the number of major shifts in objectives. The details of how such analysis plans should be defined will depend very much on the specifics of the program at a particular site, and can not be usefully pursued further here.

But it is most important to keep constantly in mind the fact that the program approach of responding to individual student objectives militates against the analysis of outcomes data for EBCE students as if they were a homogenous group who had a single set of common learning experiences.

Resource Usage. The final major contributing or interpretative factor that should be considered in planning the analysis of outcomes data is that there will be differences among students in the extent and kinds of internal and external resources used. This differential use may be a function of the individual student (readiness, non-school demands on time, etc.) or of the relevance of the available resources to individual student interests, needs and objectives. Whatever the reasons, the differences can affect both the outcomes areas in which progress might be anticipated, and the level of achievement of the outcomes. As with the readiness indicators discussed above, analyses of outcomes data in relation to resource usage might be carried out using correlation methods (variations in amount of usage), or in terms of sub-groups identified on the basis of resource use (kinds of resources).

REPORTS PLANNING

The various groups of users of program evaluation have different needs and interests for information; they also differ widely in the amounts of time they can devote to understanding and appreciating the information provided. It seems evident that these variations in needs and time can best be met by providing separate reports for each group, which will vary in detail, and in form of information presentation. It will probably be useful if the several reports can be outlined in at least general terms, including possible table and graphics formats, prior to completion of plans for information collection and analysis, to insure efficient preparation of the reports. Nearly all evaluation studies tend to run behind schedule; since report preparation is the last stage, this activity is the one that has to absorb all the schedule slippage.

Reports for the board of education should probably contain very short summary sections, and rely quite heavily on graphic presentations to summarize the data. Comparative cost, opinion, and demographic data often lend themselves well to bar chart presentations. In some instances, documentation of

process may also be usefully presented in bar chart form. Histograms or overlapping frequency polygons may be most useful for presentation of outcomes data, and can be most easily prepared if data have been grouped during analyses. Details on the results of statistical tests, if these have been made, are probably not of great interest to board members, although the conclusions reached as a result of the tests should be presented in the text portion of the report. Cost data are probably best presented in whatever tabular and graphic forms are usually used for board presentations.

The superintendent and other district staff obviously will be most interested in the report prepared for the board of education, and in fact may find such a report sufficient for most of their purposes. It might be expected, however, that they would be much more sophisticated with respect to the uses and interpretation of data, and may wish to have technical appendices to support the information in the report, and to describe the instruments and procedures used in the information collection.

The reports for other school district users can best be defined by the EBCE Program Director, but in general it seems likely that such reports should not be overly detailed. But in most cases there should be a quite detailed report with supporting tables and procedures descriptions that could serve as back-up to substantiate any of the separate reports and to provide the complete documentation of the evaluation study *per se*.

Specifications for reports prepared for funding agencies will have to be provided by the funding agency, or inferred from knowledge of their interests and inclinations.

CONCLUDING COMMENTS

A program that really represents a major restructuring of the curriculum and organization of a complete school will also require major restructuring of the approach to program evaluation. In order to assess the effects of the total program, it may be necessary to forego some of the kinds of detailed information usually associated with specific course or curriculum evaluation.

A highly personalized instructional program like EBCE presents particular challenges. Chief among these is that of selecting or developing outcomes

measures and analysis methods that will reflect the importance of individual student objectives and instructional planning, while at the same time permitting some conclusions about the program as a whole. Of only slightly less importance is the need to reflect in the analyses and interpretation of the outcomes data the fact that students will vary greatly in their readiness to take advantage of the opportunities provided by the EBCE structure, and in the ways they actually use the various designed program procedures.

CHAPTER VI

DEVELOPMENT OF AN EVALUATION PLAN

The previous chapters of the handbook described steps that could be followed in selecting information collection procedures and an evaluation design for a new EBCE program in a district. The underlying idea was that the information to be collected, and the evaluation design, should be derived from consideration of the information needs of key decision-making groups. The responsibility for transforming the mass of imperfectly defined, and frequently conflicting, needs and requirements for the evaluation into a specific and workable plan for evaluation rests primarily with the evaluator. The evaluator has many detailed decisions to make.

This chapter provides one example of the total set of evaluation planning decisions necessary to arrive at a *first draft* of a plan. The example plan has been developed for a hypothetical district, and makes use of a number of worksheets which essentially parallel the analytic steps described in Chapters II-V. Details about the adopting school district and program characteristics important to the evaluation plan are provided below.

DISTRICT AND CAREER EDUCATION PROGRAM CHARACTERISTICS

1. District

   - Serves urban-suburban communities of about 200,000 people in the center of a major agricultural area, with a variety of relatively small industries and businesses, one two-year college, and a state supported four-year college.
   - Includes grades K-12, organized into 28 elementary (K-6), eight intermediate (7-8) and six high (9-12) schools.
   - Total school enrollment of 55,000 students, with a high school enrollment of 14,000.

- School population 55% Caucasian, 25% Black, 12% Asian, and the remainder from other ethnic groups; schools ethnically unbalanced by state guidelines, which were adopted as goals by local board.

- Five member elected Board of Education; two members have served for more than ten years, the others have served for two, five and eight years; one member has been a strong advocate of increased vocational education programs, and two have urged that the academic offerings particularly be given greater stress; one member thinks it most important that students be prepared and encouraged to attend the local four-year college; two members have repeatedly asked for better basic skills instruction because business people in the town have complained that they have to train the students to read and do the arithmetic necessary for jobs; all have stressed the importance of financial responsibility in education, and keeping an eye on the budget.

- Superintendent has held the position for five years, and has three Assistant Superintendents -- for Business, Instruction, and Special Services; Directors of Elementary and Secondary Education report to one Assistant Superintendent; Supervisor of Career Education now reports directly to the Assistant Superintendent for Instruction, but until three years ago reported to the Director of Secondary Education.

- In recent years, ungraded classrooms, modular scheduling, team teaching and some individualized instruction programs have been introduced in the district, but always on an individual school basis; in every case, there has been careful preparation of the parents and the school board for the innovation; in recent years, the board has generally divided on approval of the innovation, but with different members in the minority on different innovations.

- Building principals are encouraged to promote parent-teacher groups, and to keep parents informed about the school programs; some principals have established parent advisory groups, but this happened most often in the elementary schools.

- Career Education has received increasing emphasis, reflected through broadening the scope of existing vocational education offerings at the high school level, and emphasizing career awareness and information at earlier grades; there is a stress on vertical sequencing of career education at the district level, but the new materials in the elementary and intermediate schools have been introduced in a variety of different ways, and the vertical sequencing is relatively ineffective.

- Outside work experience opportunities for 12th grade students were introduced in one school five years ago, and now every high school has some students in such programs.

2. Planned EBCE Program

- Pilot program in grades 10-12 authorized for two years, to be reviewed by staff and board prior to further expansion; student population of 100 authorized.

- To be operated as an alternative school located in one of the high schools, with students to be recruited on a volunteer basis from all six schools; head guidance counselor in each school is to be primary recruiter; importance of recruiting an ethnically diverse group of students stressed by two board members; parents in two high schools urged that students not interested in college preparation be given opportunities to enter new program; preliminary survey suggests that as many as 500 students may apply.

- Staff: Program Director, four Learning Coordinators, one Resource Analyst; all staff to be chosen from currently tenured teachers and counselors; teachers of "host" school to provide special help in academic skills, if requested; enrollment in classes in "host" high school possible, but limited by school to two classes per student, with no more than five EBCE students in any one class; Program Director to take on Resource Analyst responsibilities after first year of program.

- Business-industry participants in outside work experience programs to form nucleus of resource pool; one school minibus available for student transportation; district liability insurance covers staff members transporting students for school activities; students required to have $100 - 300,000 liability coverage if they transport other students.

- Program Director has spent one semester in program planning and staff selection, working with Director of Career Education; made two presentations to board of education prior to final approval by board, each presentation requiring more than allotted time because of board members' questions and comments; strongly supported in presentations by Assistant Superintendent, but Director of Secondary Education only mildly supportive.

- Learning Coordinators and Resource Analyst released quarter-time for semester immediately preceding start of program for program planning, resource recruitment and preparation.

- Program evaluation to be the responsibility of Research Specialist who reports to Assistant Superintendent for Special Services; evaluation planning time available in semester immediately prior to student enrollment.

3. Evaluation Focus

- To gain approval by board of education, it was agreed that effects and costs of EBCE would be compared with those for a career education program introduced two years ago.

- The Program Director is unsure about the potential effectiveness of the planned procedures for improving basic skills and preparing students for admission to college, and has asked for evaluation data in these areas particularly.

- A private regionally based Industry-Education Research Foundation has provided $15,000 for the program, because of their interest in promoting more direct involvement of business and industry in education; they are particularly interested in learning ways that business contributions can be made, and the costs to business-industry participants of such involvement.

- The state department of education has been doing initital planning for a program that will prepare students now dropping out of school before graduation to be more readily employable; two department members are interested in the outcomes for such students who will enter this EBCE program.

4. Career Education Comparison Program

- Available in all six high schools, required of all 10th and 11th grade students; optional for 12th grade students.

- In 10th grade, students in a required Social Science course spend one quarter of the year on materials and lessons dealing with values clarification and potential vocational interests; classes meet five times a week for forty minutes.

- In 11th grade, a scheduled guidance class spends one quarter of the year learning about sources of career planning information and acquisition of career knowledge in three areas of particular interest, as identified through various tests and group discussions.

- In 12th grade, students have an option of participation in a work-experience program (Work Experience for Employment Development -- WEED) for the equivalent of two class periods each day, with some flexibility in the actual hours spent on a work site; students solely responsible for transportation to work sites; where possible, work sites are matched with career interests, but the limited range of available work sites results in only 30% of the students getting their first or second choice; on the average, about 40 students in each high school choose this option.

5. Program and Evaluation Budget

- The district board required that operating costs for the EBCE program should not exceed the district-wide per pupil average of $1200, which also applies to the comparison program; they did, however, approve an additional $50 per student for the first year of the EBCE program to cover special one-time start-up costs.

- Special Services allocated funds from its budget for evaluation, based on a formula that allows 10% of the total cost of a new program; since the total program budget will be $125,000 for the first

year and $120,000 for the second year (exclusive of foundation support), the budget for evaluation in the first year will be $12,500; plans for evaluation in the second year can be based on an anticipated budget of $12,000, but there can be no firm assurance that this amount will actually be available.

- Using this budget information and general past experience, the Research Specialist has developed the following tentative evaluation budget:

	1st Yr. Budget	2nd Yr. Costs Anticipated
Professional evaluator (part-time)	$8,000	$6,000
Test administrator, clerical staff	1,000	1,500
Interviewers, observers	1,000	2,500
Computer programmer	1,000	500
Editorial assistant	-0-	500
Materials @ $10.00	1,000	-0-
Test scoring and data processing services	500	1,000
	$12,500	$12,000

INITIAL EVALUATION PLANNING

The Worksheets that follow represent the kinds of "paper" that the evaluator (Research Specialist) in this hypothetical district might have produced in making the first cut at an evaluation plan. As mentioned above, this person was able to devote time for evaluation planning in the semester prior to the start of the program. These Worksheet might have been produced about halfway through this semester, after the evaluator had reviewed the various procedural handbooks and had had several meetings with program staff members.

These have been called Worksheets, because they should be just that -- sheets prepared while the evaluator is working. As presented here, the Worksheets may seem quite formal. In practice, the form in which the evaluator prepares his or her planning notes will obviously reflect personal preferences and working styles. Whatever the form, many of the factors considered in this illustration should be attended to by the evaluator.

Finally, like any worksheets, the ones presented here are not in any sense final. They are certainly incomplete, and probably still have some internal inconsistencies. They were revised frequently in their development as the complex interaction of program characteristics and situational needs and constraints were considered. If this were an actual evaluation problem, they would be revised further prior to preparation of a final plan; and the revision process would undoubtedly continue to the completion of the study. In short, no plan should ever be so rigid that it inhibits responding to changing circumstances and new information; every plan should be detailed enough that potential gains and losses from plan modification can be assessed.

Worksheet 1 -- Decision Determinants and Information Needs

This is a first effort at summarizing the information needs of various audiences for the evaluation report. The decision determinants identified in Exhibits 4-6 (Chapter IV) were used as a starting point, but they were extended somewhat to reflect some of the particular concerns and interests indicated in the description of the district and program characteristics given in the first section of this chapter.

Most important, however, this worksheet reflects the first effort to see how the comparative evaluation of EBCE and the other career education program (WEED) might be approached. It makes it evident that the comparative evaluation will have to be based on relatively limited amounts of information for 12th grade students in each program. These and other implications are pursued further in later worksheets.

WORKSHEET 1

DECISION DETERMINANTS AND INFORMATION NEEDS

	EBCE	WEED	COMMENTS
BOARD OF EDUCATION			
1. Staffing Requirements	[ ]	[ ]	
2. Resource Participation	[X]	[X]	
3. Costs	[ ]	[ ]	Cost ceiling set
4. Students Served	[X]	[X]	
5. Community Involvement	[ ]	[ ]	School level responsibility
6. Constituent Support	[X]	[X]	
7. Personalized Accomplishments	[ ]	[ ]	
8. Program Goal Progress			
Basic skills	[X]	[ ]	Not a WEED goal
Academic content	[X]	[ ]	Not a WEED goal
Job entry skills	[X]	[X]	
9. Staff Support	[X]	[X]	
DISTRICT STAFF			
1. Staff Requirements	[X]	[X]	
2. Resource Personnel	[X]	[X]	
3. Costs	[X]	[X]	Comparable only for grade 12
4. Students Served	[X]	[X]	
5. Community Involvement	[ ]	[ ]	School level responsibility
6. Constituent Support	[X]	[X]	
7. Personalized Accomplishments	[X]	[ ]	Not appropriate for WEED
8. Program Goal Progress			
Basic skills	[X]	[ ]	Not a WEED goal
Academic content	[X]	[ ]	Not a WEED goal
Job entry skills	[X]	[X]	
Career development	[X]	[X]	
9. Operations Efficiency	[X]	[X]	Not comparable
10. Staff Support	[X]	[X]	
EBCE PROGRAM DIRECTOR			
1. Constituent Support	[X]	[ ]	
2. Operations Efficiency	[X]	[ ]	
3. Student Progress Review and Certification	[X]	[ ]	
4. Personalized Accomplishments			
Basic skills	[X]	[ ]	
Academic content	[X]	[ ]	
5. Program goal progress	[X]	[ ]	
6. Community involvement	[X]	[ ]	
OTHERS (FOUNDATION STAFF)			
1. Resource Participants	[X]	[ ]	
2. Costs to resources	[X]	[ ]	

Worksheet 2 -- Information Sources and Types

This worksheet is simply an attempt to think about all the possible sources for various types of information that are relevant to the circumstances under which the EBCE program is being introduced. The use of abbreviated descriptions of "Decision Determinants" in the first column is intended to provide a tie to Worksheet 1 in order to insure that some important information need is not overlooked. In a sense, this worksheet may be the result of "brain storming," and thus may be especially tentative and subject to all sorts of later revision.

WORKSHEET 2

INFORMATION SOURCES AND TYPES

Decision Determinants	Information Sources	Information Types		
		District Board	District Staff	EBCE Program Director
Staffing requirements	Program Director		Narrative and oral reports and documentation	
Costs	Business Office		Standard and special reports	Cost analysis report
Students served	Program files	Counts by sex, ethnic group, "sending" schools, retention rates, early withdrawals		
Resource participations	Resource Analyst's files	Counts by type of resource, use, number of students per resource, costs to resource (1)		
Program goal progress	Students Resource Personnel (2)	Test scores (2) Student self-reports Reports or ratings		
Staff support	"Host" school staff Staff in sending schools Teacher associations EBCE staff members	Opinions items or scales Ratings Unsolicited anecdotal reports Discussion, formal actions		
Operations efficiency	EBCE program staff Resource personnel (1) EBCE students EBCE parents		Opinion items or scales Interviews Ratings Descriptions of important incidents	
	Independent observers (3)		Narrative descriptions of observed activities	
	Program and LC files		Designed forms to summarize completion of program activities	
Constituent (Parent) support	EBCE parents	Opinions, ratings and volunteered comments about school procedures and judged effects (4)		
	Other parents	Opinions, ratings and volunteered comments about school procedures and judged effects (4)		
	Building level parent groups	Reports or records of reactions to presentations about program		
Student progress and certification	Program files		Count of credits, projects and courses completed, satisfaction of requirements, graduation	
Personalized accomplishments	Program and LC files		Examples of completed projects Indicators of personal skills	
	Students		Entry assessment (5)	

Notes:

(1) Information of interest to the Industry-Education Foundation will also be obtained. Site personnel in comparable career program (WEED) included.

(2) Particular emphasis on tests of reading and arithmetic for board; possibly also on academic content for Program Director. Job entry skills also to be assessed by tests or resource ratings for board interests.

(3) This will probably not be possible because limited evaluation budget will not allow for observer training.

(4) Parent opinions will be restricted to programs in which their children are enrolled. The parents of students in comparable career education program will be asked particularly about the work experience activities, and about career knowledge acquired. These parent opinions, and resource personnel opinions will have to suffice for determining constituent opinions for board.

(5) To be used in analysis and interpretation of accomplishments and progress.

Worksheet 3 -- Instruments for the Collection of Information

This worksheet reflects the first major step in moving from the "brain storming" of Worksheet 2 to the nitty-gritty of actual data collection. As such, it may be the most important worksheet, and the one that requires the most time and thought. It is organized by source, and as presented here has five sections (3A -3E), one for each source. Present knowledge of available instruments is reflected in the "Possible Instruments" column; this column also provides some indication of the potential instrument development task that would be required if all or even many of the information needs were to be met.

The comments shown in Worksheet 3 can be seen as the evaluator's notes to him or herself about ideas that might be pursued in development or adaptation of instruments.

The limited amount of time and money available for evaluation of a total school program as complex as EBCE makes it very clear that many of the information needs simply can't be met. Priorities for information collection have to be established; the priority column in the Worksheet is a first attempt, using three designations -- high, medium and low. The priority assignments reflected here are based on a combination of considerations, and are of course somewhat subjective. Ultimately, others concerned about the program evaluation activities should have a say in these priorities.

WORKSHEET 3A

INSTRUMENTS FOR THE COLLECTION OF INFORMATION FROM

STUDENTS

Procedure Type	Content Descriptor	Possible Instruments	Comments	Priority	Reference Number*
Opinion items or scales and ratings	Operations Efficiency				
	Staff	To be developed	May be sensitive issue with staff, particularly in comparison program	Low	1
	Resource people	Resource Opinion Statements (p. B/34)	Will require adaptation for use in comparison program. Some additional items may be needed, but these ratings may also be sensitive for the resource people	High	2
	Supplementary curriculum	To be developed	Probably applicable for only a few students in courses outside "host" high school.	Low	3
	Integration of program activities	To be developed	Probably just free response or an interview question. May be different question for EBCE and comparison program	Medium to High	4
	Personalized outcomes	Student Opinion on Program Outcomes (p. B/8)	Perhaps adapt and add to second set of ratings; need to relate outcomes to specific projects; may ask student to identify project that contributed most to outcome. Comparison program questions will probably refer only to work sites, but ask what else was done.	High	5
	Administrative progress/certification	To be developed	Need to know opinions about fairness and honesty of credit award system, and relation of credits to learning and growth. May require outside confidential interviewer	Medium	6
	General	Student Opinion About School (p. B/11)	Present form seems adequate for WEED students as well as EBCE, but does omit lesson materials, teaching methods	Medium	7
	Program Goal Progress				
	Academic skills and knowledge Career/job knowledge Career decisions	To be assembled	Item pool in Appendix may be sufficient. Some revision may be necessary to make items meaningful for comparison program. May focus opinion items primarily in areas <u>not</u> covered at all by objective measures.	High	8
	Self-confidence/ maturity	To be assembled	Could be omitted because of difficulty in definition for self-ratings. Depend on LC and RP ratings or opinions	Medium to Low	9
	Attitudes toward learning	Attitudes Toward Learning Scale	This instrument should be entirely adequate	Medium to High	10
Objective tests	Program Goal Progress				
	Academic skills and knowledge Reading Arithmetic	District testing program instruments	Reading tests somewhat artificial and word usage tests emphasize mechanics of grammar and writing; computation and mathematical comprehension tests stress operations with no real context. Neither focuses on skills application. Content and derived scores may be particularly inadequate for middle or end of 12th grade. Consider possible use of 11th and 12th grade PSAT scores, program would have to pay test fees for some students, probably.	High	11
		To be developed	Possibly experiment with locally developed tests using material drawn from resource site examples		
	Writing	Writing Sample Rating Scales (p. B/13)	Very expensive, unless English teachers will agree to do it as extra task. May be of sufficient interest that it can be seen as part of general curriculum evaluation experiment. Will have to develop topics.	High	12
	Oral communications	To be searched or developed	No useful measures presently known. Most likely not feasible; probably depend on scale developed for RP ratings	Moderate to Low	13
	Knowledge	Course grades	Too much variety to use published tests. Available only for students in "host" school courses	Low	14
	Career/job knowledge Career Decision making	Assessment of Career Development and/or Career Planning Program (pp. B/17,B/19)	Should be given before and after program enrollment. Purchase of materials and scoring are expensive. Possibly District Guidance consultant will be interested in sharing costs as a pilot project for improving career guidance. CPP may be useful in EBCE Orientation, if LCs interested, and for assessment of readiness	High to Medium	15
	Job entry skills	To be sought	Whatever is available may be limited to a few jobs. Probably will have to depend on RP ratings for most or all students	High	16
		New Mexico Career Education Tests (p. B/21)	Sections on job hunting and application may be relevant, but not really covered in program. These tests less expensive to use than those above. Consider further for assessment of other program goals	High (Board)	17

*This number is related to entries in Worksheet 4.

WORKSHEET 3B

INSTRUMENTS FOR THE COLLECTION OF INFORMATION FROM

PROGRAM FILES

Procedure Type	Content Descriptor	Possible Instruments	Comments	Priority	Reference Number*
Counts	Students				
	Demography	EBCE applications and other student documents (pp. B/28; B/31)	Information about grade, sex, ethnic group, and family characteristics will be needed. More information may be available for EBCE students than for WEED students. Perhaps additional information about WEED can be obtained. Details to be settled during recruitment planning	High	18
	Staff	Various	Will need record of number of students per LC, reassignments, etc. Also numbers of students working with various skills specialists	High	19
	Resources	Student Activity Reports Resource Log Resource Contact Report (p. B/31)	Forms may be modified. Will need information on numbers of students for each resource, numbers of hours on various activities, etc. Will have to work with WEED coordinator to obtain similar information. Details on counts to be worked out by first week of program	High	20
	Administrative progress/certification	Transcripts and records	Credits earned in relation to project evaluation and hours. Probably can't obtain comparable information for WEED	High	21
	Personalized accomplishments	Various	Numbers and kinds of projects completed, hours required. Kind of project products, distributions of LC and RP project evaluations. May require sampling of students and projects.	Medium to Low	22

*This number is related to entries in Worksheet 4.

WORKSHEET 3C

INSTRUMENTS FOR THE COLLECTION OF INFORMATION FROM

EBCE AND OTHER STAFF MEMBERS

Procedure Type	Content Descriptor	Possible Instruments	Comments	Priority	Reference Number*
Ratings (EBCE staff only)	Operations Efficiency				
	Personalized Accomplishments	Scales to be developed	Scale should be defined to allow for rating in relation to initially defined objectives; may have to allow for revision of objectives. Probably have a separate rating for each of the package goal areas	Medium	23
	Resource Usage		May require adaptation. Should distinguish between internal and external resources. May be simpler than using program files to determine resource usage. No comparable information for WEED students	High to Medium	24
	Entry assessment	To be developed	Rating scales should permit grouping of students in terms of readiness to profit from the major program procedures, and in terms of status and clarity of the student objectives	High	25
	Readiness Student objectives				
Opinion items or scales	Support for program	To be developed	Probably some items common to EBCE and WEED, others different for each program, at least in terminology	High	26
	Operations efficiency				
	Resources Procedures	To be developed	Probably use structured interview. May be limited to EBCE staff, but may be useful to interview some staff at "host" school who could observe EBCE and WEED	High	27

*This number is related to entries in Worksheet 4.

WORKSHEET 3D

INSTRUMENTS FOR THE COLLECTION OF INFORMATION FROM

PARENTS

Procedure Type	Content Descriptor	Possible Instruments	Comments	Priority	Reference Number*
Opinion items or scales and ratings	General Constituent Support				
	Program Goals and Approach	To be developed		High	29
	Operations Efficiency				
	Staff		Adequate as is for either or both programs	High	30
	Program Goal Progress	Parent Opinions of Program Accomplishment (p. B/25)			
	Student Achievement in Program Goals		May want to adapt or extend number of items May need editorial revision for use with WEED program	High	31

*This number is related to entries in Worksheet 4

WORKSHEET 3E

INSTRUMENTS FOR THE COLLECTION OF INFORMATION FROM

RESOURCE PERSONS

Procedure Type	Content Descriptor	Possible Instruments	Comments	Priority	Reference Number*
Opinion items or scales and ratings	Operations Efficiency				
	Resource Persons	Resource Opinions of Procedures and Outcomes (p. B/34; B/36)	May require editorial revision to be appropriate for comparison group. Also may want to add items dealing with other contributions Resource Persons feel are possible	High	32
	Program Goal Progress				
	Job Entry Skills	To be developed	Existing instruments may be limited to only a few jobs. Resource Person ratings may be only feasible way to assess	High	33
Interviews	Costs				
	Resource Contributions	To be developed	If important to know how Resource Person's reports of costs and benefits compare with WEED programs, will need instrument to obtain comparison information	High	34

*This number is related to entries in Worksheet 4.

Worksheet 4 -- Design Questions, Information and Information Collection Schedule

This is the worksheet that "puts it all together" in terms of what can actually be done, and when. It combines design issues and questions, information needs, instrumentation, and priorities. It may be the end of a first stage of evaluation planning; but it is still only a document to be used for revision and refinement of an evaluation plan. In this particular example, only high priority items listed in Worksheet 3 were included, simply because the available funds allowed for nothing more. Even so, it looks like a very ambitious undertaking; and it seems almost certain that others will object to some of the information needs that are not included.

Review of the worksheet will show that actual costs of the EBCE and WEED programs are not included. Detailed cost information will, of course, be essential. The plan, or design, for the collection and analysis of such data will have to be worked out with the Business Office.

Discussion of cost related questions here does not imply that they are less important than the included questions. They simply require arrangements and negotiations with district staff that are quite dependent on the organization and cost accounting systems specific to the district.

WORKSHEET 4

DESIGN QUESTIONS, INFORMATION AND INFORMATION COLLECTION SCHEDULE

Design Questions	Information			Wrksht #3 Reference Number*	Collection Schedule
	Content	Type	Source		
1. How effective is EBCE in meeting personalized objectives and program goals?	Personalized outcomes	Opinions	Students	5	End of each year
	Program goal progress	Opinions	Students	8	End of each year
	Attitude toward learning	Opinions	Students	10	End of program
	Academic skills and knowledge	Tests	Students	11, 12	Beginning and end of program
	Career knowledge and decision making	Tests	Students	15	Beginning and end of program
	Administrative progress/ certification	Counts	Files	21	End of year
	Personalized outcomes and other	Ratings	Staff	23	End of year or program
	Job entry skills	Ratings	RPs	33	End of each investigation
2. Is program differentially effective at different grades or for students differing in background?	(Some or all of the above as effectiveness indicators)				
	Demographic information	Counts and classifications	Files	18	As convenient prior to start of analysis
3. Is program effectiveness a function of amount of resource usage?	(Some or all of the above as effectiveness indicators)				
	Resource usage	Counts and/or Ratings	Files Staff	20 24	End of year or time samples during the year
Of kinds of personal objectives? Of readiness?	Readiness and objectives	Ratings and/or Tests	Staff Student**	25 15**	Beginning of year
4. How do students in the two programs differ with respect to background? With respect to readiness and personal objectives?	Demographic information	Counts and classifications	Files	18	As convenient prior to analysis
	Readiness and objectives	Ratings and/or Tests	Staff Student	25 15**	Beginning of the year
5. Do the two programs differ in effectiveness for common program goals, and what factors might account for differences?	Academic skill and knowledge	Tests	Students	11, 12	Beginning and end of 12th grade
	Career knowledge and decision making	Tests	Students	15	Beginning and end of 12th grade
	Job entry skills	Ratings Tests	RPs, work site	17, 33	End of each investigation or end of year (WEED)
	Readiness and objectives	(As described in question 4)			
6. What do the staffs of the two programs feel about the purposes and approaches used?	Program procedures in general	Opinions	Staff	26	End of each year
7. How do the parents of students in each program feel about the programs?	Goals and approach	Opinions	Parents	29, 30	End of year or end of program
	Student achievement	Opinions		31	
8. How do RPs and work site people feel about the program and their contributions to it? About what they got out of it?	Procedures	Opinions	RPs and Work site people	2, 32	End of year, or end of active participation
	Student accomplishment			33	
	Contributions, rewards			34	

*These numbers identify the possible instruments and comments in Worksheet 3, as shown in the last column of that worksheet.

**If the Career Planning Program can be used, the results obtained at the beginning of the year could be used as part of the assessment of student readiness. The appropriateness of this instrument for the WEED program will depend on further analysis of the goals and procedures of that program.

CONTINUATION OF EVALUATION PLANNING

The next steps in the refinement and ultimate implementation of an evaluation plan are very dependent on the preferences and interests of individuals. It is not likely to be useful, therefore, to continue a general description of these steps. They might be followed in a sequence roughly like the one below.

1. Outline of draft plan as developed so far.
2. Review and discussion of draft plan with Program Director and other interested people.
3. Revision and further discussion of plan, as necessary.
4. Continue instrument search, and plan for necessary instrument development.
5. Prepare tentative analysis and reporting plans.
6. Order necessary materials.
7. Prepare final schedule for actual information collection jointly with Program Director and staff.
8. Plan for organization and maintenance of data files.
9. Schedule and make necessary arrangements for "scoring" of data.
10. Initiate collection of data as scheduled.
11. Analysis and report preparation.

Undoubtedly, all of your experience has served to reinforce your belief that you have a very difficult job. You may feel that no one really understands how difficult. This handbook is intended to help you; since it presents a different and somewhat more complicated approach than is ordinarily used, it may not have simplified your life any. We hope that it might result in more useful and more used reports. We add our best wishes.

APPENDIX A

DESCRIPTION OF EBCE
AND
READER'S GUIDE

ITS PURPOSES

Experience-Based Career Education (EBCE) was designed as an alternative form of secondary education* that attempts to link learning and experience. It takes students outside the school walls into the community and workplace of adults. This alternative approach rests on the following key assumptions: education should be experience-based, career-oriented, student-centered, and it should expose students to the ideas, skills, and personalities of working adults.

The broad purpose of EBCE is to produce graduates who are:

- planful -- not only about their long-range futures, but about how they intend to accomplish more immediate goals and tasks.
- self reliant and able to set their own goals: plan activities, manage their time and other resources; work independently; recongize when they need help and how to seek it; evaluate their own behavior and learn from it; and accept the consequences of their own decisions and actions.
- capable of interacting with adults as equals: know what is expected from them as adults; be able to communicate on an adult level; to make and keep realistic commitments; and have reasonable expectations of others.
- capable of making realistic and satisfying career choices: more informed about career options and requirements and more aware of their own values, needs, goals, strengths, and limitations.
- independent learners: are able to identify what is worth learning; to identify and use effective resources and methods of acquiring information; and to analyze, evaluate, and incorporate new information into their own knowledge and experience base.

At a somewhat more specific level, the following EBCE program goals represent areas in which student progress is expected:

---

*While some districts find EBCE as a comprehensive, alternative program appealing, others have chosen partial adaptations of modifications more suitable for their district needs, interests, and requirements.

CAREER DEVELOPMENT

- Career Awareness. Acquiring a broad understanding of the world of work -- how people perform tasks, deal with one another, solve problems, and derive satisfaction in their daily lives -- and understanding the particular nature and requirements of specific careers.

- Self-Development. Learning about one's own interests, abilities, values, and goals, and using this knowledge to weigh options and make informed decisions about post high school plans.

BASIC SKILLS

- Developing reading, writing, oral communications, and computational skills essential for acquiring and communicating information in daily life.

LIFE SKILLS

- Interpersonal. Learning to relate to others on an adult level; recognizing the needs and expectations of others; handling interpersonal conflicts; and contributing productively to group endeavors.

- Inquiry. Learning to interpret and critically analyze information and its sources, draw generalizations, develop and test hypotheses, and evaluate data and ideas.

- Problem-Solving. Learning to analyze situations, define problems, identify and use appropriate sources of information, evaluate alternatives, and employ effective solutions.

- Decision-Making. Learning to recognize decisions that need to be made, to identify options and probable outcomes, to examine personal values and goals affecting decisions, to make informed choices, and accept responsibility for decisions made.

WHO MAKES IT WORK?

IN THE COMMUNITY

The EBCE learning process -- an interaction between the students, the the Learning Coordinator, and the resource volunteer -- depends first of all on various people in the community who offer their time, ingenuity, work facilities, and practical knowledge to students.

Resource Persons (RPs) are adults from all walks of life who volunteer to share their seasoned knowledge and special skills with interested

students in a one-to-one relationship. The RP's primary role is to help students become adults, to learn how to think for themselves, make responsible decisions, relate maturely to others, and carry out their own learning projects.

The relationship is voluntary on both sides, and is defined by a set of mutually understood expectations and consequences. Its scope, objectives, and duration are negotiable -- depending on the RP's availability and the student's educational needs and interests.

By providing direct experience in a variety of social and economic settings, RPs help students:

- acquire firsthand information about what people actually do in their daily work, how they feel about what they do, and what kinds of knowledge and skills are needed to enter and succeed in particular careers;
- learn more about who they, the students, are and what they want to become by testing their values, interests, and abilities through actual experience;
- improve reading, writing, and computational skills by using them to solve real problems in everyday life situations, and by challenging them to employ these skills on an adult level;
- integrate learning in ways not possible in the traditional classroom by seeing how career skills, academic concepts, and social issues converge in the need to solve practical problems;
- develop some technical skills through hands-on experiences in real or simulated work tasks.

While the core of the EBCE learning experience is this one-to-one relationship between a student and an adult interested in his education, two other kinds of resources are used in the program:

Resource Organizations (ROs) range in size from fewer than ten to more than several hundred employees, and open most or all of their operations to students. Activities at these sites typically include pre-planned group briefings, tours, and observations and discussions with individual employees. Resource Organizations give students exposure to a total organization: the nature of the business; its relationship to the community; the kinds of jobs performed there; how particular careers interlock; the working conditions and environment; and educational prerequisites for job entry.

Community Resources (CRs) are institutions or organizations open to the public, such as museums, libraries, aquariums, parks, courts, and city

council meetings. Students use them when working on projects and to supplement information available from other resources. At these Community Resource sites, and at Resource Organizations, students may identify RPs who are willing to work with them on individual projects.

Resource Development. Individuals and organizations are recruited to form a balanced pool of resources that can accommodate student interests and high school graduation requirements, and which provide a representative mix of career fields.

Resource sites are analyzed for their learning potential in career awareness, academic subjects and issues, and the application of basic skills. A range of on-site learning activities, from which students can choose in designing their projects, are mutually agreed upon by the Resource Person and EBCE staff, and conveyed to students in the form of Resource Guides.

STAFF ROLES

While students will spend a major portion of their time at learning sites in the community, a school center serves as a home base where they plan projects, schedule appointments with resources, and return to digest and share their experiences in the community. Located in a school or in a separate facility, the EBCE center is where students use supplementary resources such as tutorials, workshops, and programmed instructional materials, coordinated by a Skills Specialist. Here students also come in contact with the Program Director, who serves as administrative coordinator and staff supervisor, a Records Clerk, and the Resource Analyst, who is responsible for recruiting, analyzing, and maintaining the pool of resources. The key staff role, however, is that of the Learning Coordinator (LC).

Like all adults involved in EBCE, the LC plays a multi-faceted role as helper, facilitator, and resource. Each LC works with 20 to 30 students to help them:

- formulate long-term goals consistent with their own interests and educational needs, and decide what steps are necessary to achieve them
- determine what's worth learning, focus areas of inquiry; identify resources, and develop project plans

- refine their interests, clarify values, and assess needs, based on cumulative experience.

- integrate what they know about themselves with information about career and educational opportunities.

- monitor their own learning progress: articulate problems, devise appropriate solutions, and modify strategies to incorporate new insights and emerging interests.

The LC coordinates the student's total learning program and monitors on-site learning experiences through counseling sessions and regular contact with resources in the community. LCs are teachers in one important sense -- working with students individually and in small group sessions, they can teach inquiry, problem-solving, planning, and decision-making skills necessary for independent learning.

LCs also provide students with the kind of feedback that can help them make sense out of what they are doing and learning in the community. This process of consolidating and interpreting their diverse experiences, of reinforcing and further stimulating learning, pervades all staff's daily interactions with students.

ROLE OF THE STUDENT

Within the framework of EBCE goals and clearly specified accountability procedures, the student acts as planner, decision-maker and self-evaluator. Students are allowed to pursue their own particular needs and interests, at their own pace, and according to learning methods best suited to their purposes and capabilities.

Projects. Students plan and carry out their learning through individual projects, using goals and evaluation criteria they help specify. Designed to blend growth in academic subjects, career development, and basic and life skills, each project:

- is organized around a topic or issue relevant to a career or discipline;

- is focused in terms of significant questions that require for their answer planned learning experiences at resource sites and the use of other information sources such as related readings;

- includes activities that require the student to apply communications, interpersonal, and/or computational skills in practical, career-related situations; and

- results in demonstrable growth toward stated goals, and in tangible products for which credit is awarded.

ORGANIZING THE CURRICULUM

Because EBCE departs from the conventional classroom approach to content and instruction, the Far West program has developed curriculum guides, called project planning packages, tailored to the unique aims of the model.

A package is not curriculum, but rather a structure within which individualized curriculum can be planned and carried out in the form of projects. Each package unites under a single heading a broad area of study and its related professional and technical careers, and enables a student to focus his learning on an academic subject area, a significant issue, or a career field, while simultaneously learning about all three.

Prototype packages have been developed in the following areas: Social Science, Commerce, Physical Science, Communications and Media, and Life Science. Easily adaptable to local needs, each package contains the following essential parts:

- Package goals define the package scope and range, set minimum requirements, and identify significant underlying concepts and process skills of the career/discipline area.

- Sample projects demonstrate how students can pursue their own interests while meeting minimum requirements for credit, and learn those skills, concepts, and principles considered basic to the package career/discipline area. They also serve as exemplary samples of completed program planning forms (the Project Sketch and the Student Project Plan), while offering project suggestions for students to pursue.

- The annotated list of resources describes resources available for learning activities relevant to the study area.

In addition,

- A statement about required group discussions explains their nature and purpose. Students working on projects within a career/

discipline area meet regularly to broaden their exposure to the field by discussing what each of them is doing and learning.

- A step-by-step description of how to plan and complete a project provides guidance on how to plan projects and a reminder of the tasks involved.

Other sections not as critical to the package concept, but time-savers for students and staff, include an introduction; a bibliography; project ideas; careers to explore; and a list of courses for which students could seek subject matter equivalency credit, depending on the content and focus of the project they design. Within this flexible structure, students can plan more ambitious projects to earn more credit, or can plan two or more smaller projects to meet the minimum requirements.

Using the package and working with staff, the student selected the resources to visit in getting a fix on a project topic. Students are allowed to explore several possible topics and resource sites if necessary before clarifying and narrowing their theme for a full-scale project plan. The student interested in rent control, for example, might visit Resource Persons at the housing authority, the legal aid society, and a city councilman's office, only to become involved in a more interesting topic, such as affirmative action employment programs and how they are working.

Before long, however, the student must firm up his project plan. (While students may explore as much as they want, they earn credit only for completed projects or other work such as tutorials.) With the assistance of the Learning Coordinator and chosen resources, the student identifies on a project planning form:

- a focus or theme for the project.
- questions for which answers are being sought;
- Resource Persons and Organizations to work with;
- related reading;
- an estimate of time required in visiting resources, doing related research, and developing at least one product; and
- project goals and indicators -- what the student wants to learn about or learn how to do through the project, and how what was learned will be known by the student and demonstrated to the staff. In addition to thus spelling out how work will be evaluated, the student designates who the evaluators will be and deadlines for completion of goals.

The student also negotiates with the Learning Coordinator the amount and kind of credit to be earned if the project is satisfactorily completed. The package goals provide a standard for use in negotiating credit. If a student's project meets the minimum package goals, a specific amount of credit will be received.

The package provides the structure and the student's project provides the mechanism for integrating learning of process skills with subject matter content.

The package design emphasizes to students that growth in life, basic, and career skills is a natural part of every learning project, whatever its particular content.

EVALUATOR'S READING GUIDE

This appendix contains a suggested list of readings which should provide a minimal understanding of the EBCE purposes and approach so that those responsible for evaluation planning can more ably relate information needs of decision-makers to EBCE purposes and procedures. The reading selections are organized by EBCE volumes. The numbers identify specific manuals within each of the four volumes.

	Pages
Management	
2. Administration	
Introduction	1-2
Academic Credibility	3-4
Budget Planning and Administration	9-12
Schedules	25-27
Staff Selection	31-32
Staff Roles and Qualifications	49-61
4. Student Recruitment and Selection	
Planning Recruitment and Selection	1-8
Methods of Selection	15
Resources	
5. Resource Development	
Introduction	1-6
Sample Resource Guides	35-43
Guide for Resource Persons and Community Organizations	--
Guidance and Instruction	
9. Learning Coordination	
Introduction	1-11
Entry Assessment	13-20
Program Planning	21-59
Advisory Groups and Project Seminar	61-70
Progress Monitoring	71-96
Credit Assignment	97-112
EBCE Program Goals	115-120
Project Planning Packages	
At least one planning package, 11-15	--

APPENDIX B

INSTRUMENTS/PROCEDURES DESCRIPTIONS

This appendix contains two kinds of information collection devices. The first consists of those developed by Far West Laboratory during the EBCE field tests. The second is composed of brief descriptions of some published instruments that were judged to be relevant to career education goals. No descriptions of published instruments for the assessment of academic skills and knowledge are included in the appendix, since it was assumed that school district staff are familiar with a number of such instruments.

The questions, scores and forms developed by the Far West Laboratory may be considered to be a pool of devices from which adopting sites may make selections that are most likely to meet their needs. This pool contains material developed and used at varying times during the testing of the program. It will be evident, therefore, that there is some redundancy in the pool. Particular program evaluators may prefer one format or type over another; the redundant items were included to provide as much choice as possible.

In the interests of providing as large a pool of items or statements as possible, while at the same time reducing the total number of pages, directions to respondents, identifying information, and so on, that would usually be included in an instrument have been omitted. Where free responses are called for, no space has been allowed for them; where the same question might be asked twice, with minor variations (e.g., father's education, mother's education), the question has been included only once. It has been assumed that in selecting and/or adapting material from this pool, the local evaluators are in the best position to determine final format, directions, etc.

As noted in the body of this handbook, the inclusion of some published instruments is not intended to be exhaustive. Rather, we have included some recently published intruments that might not be included in resources customarily searched in evaluation planning. There may be other instruments of equal or greater utility and quality that have been made available, of which we were not aware. In any case, program evaluators should make every effort to locate instruments that can contribute to their information about the EBCE program.

The general organization of this Appendix is indicated in the following Instrument Index. Source, Information Type, and Focus are shown in the upper right

hand corner of each page. The statements, questions or scores are numbered sequentially within a Source/Type/Focus group.

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APPENDIX B

INSTRUMENTS PROCEDURES DESCRIPTIONS

Instrument Index

Information Source	Information Type and Focus	Page
Students	Opinion Statements	
	EBCE Activities	B-5
	Resources	B-6
	Program Procedures	B-7
	Program Outcomes	B-8
	Opinion Scores	
	School	B-11
	Demonstrated Skill	
	Writing	B-13
	Personal Reports	
	Post-High School Plans	B-14
	School Leavers	B-15
	Published Instruments	
	Abilities	B-19
	Career Interest	B-19
	Career Experience	B-17,19,21
	Career Planning	B-17,19,21
	Career Knowledge	B-17,21
	Career Attitudes	B-21
Parents	Opinion Statements	
	Program Procedures	B-24
	Program Accomplishments	B-25
School Files	Personal Reports	
	Student Background	B-28
	Documentation	
	EBCE Activities and Personalized Accomplishments	B-31
	Resources	B-32
Resources	Opinion Statements	
	EBCE Activities and Procedures	B-34
	Program Accomplishments	B-36
	Interview	
	Entire Program	B-38

INFORMATION SOURCE:

EBCE AND OTHER STUDENTS

SOURCE: Students
INFORMATION TYPE: Opinion Statements
FOCUS: EBCE Activities

How well did different parts of the program work? Below is a list of activities in the school program. Please rate each item as to how successful it was in your own experience at the school. (Circle one number on each line)

		Not at all Successful for you				Very Successful for you
a.	Visiting resource organizations	1	2	3	4	5
b.	Improving basic skills	1	2	3	4	5
c.	Physical education activities	1	2	3	4	5
d.	Learning about possible careers	1	2	3	4	5
e.	Using forms for planning	1	2	3	4	5
f.	Visiting Resource Persons	1	2	3	4	5
g.	Doing resource orientations	1	2	3	4	5
h.	Visiting Community Resources	1	2	3	4	5
i.	Social activities	1	2	3	4	5
j.	Learning about oneself	1	2	3	4	5
k.	Going to advisory group meetings	1	2	3	4	5
l.	Using project planning packages	1	2	3	4	5
m.	Doing resource explorations	1	2	3	4	5
n.	Planning for a future career	1	2	3	4	5
o.	Using the Resource Center	1	2	3	4	5
p.	Learning to make decisions	1	2	3	4	5
q.	Project planning	1	2	3	4	5
r.	Learning academic skills	1	2	3	4	5
s.	Individual meetings with LCs	1	2	3	4	5

SOURCE: Students
INFORMATION TYPE: Opinion Statements
FOCUS: Resources

1. Think back over the past semester and decide who was the Resource Person with whom you spent the most time. Please answer the following items about this person.

   a. How much time did you spend with this resource person? (Circle one number)

   Less than 5 hours. 1
   6-10 hours 2
   11-20 hours 3
   21-40 hours 4
   More than 40 hours 5

   (how many?_____)

   b. What did you do with this resource person? (Circle one number on each line)

	Not at all	Some-times	Usually	Always
Talk about jobs, careers	1	2	3	4
Observe work activities	1	2	3	4
Participate in work activities	1	2	3	4
Learn job or career skills	1	2	3	4
Plan or work on project.	1	2	3	4
Talk about personal interests and issues	1	2	3	4

   Other activities (please specify)

2. Think back over the past semester and determine who was the Resource Person who was the most meaningful and important for you. Was this the same person you discussed in Question 1? yes_____ no_____
   If no, please answer the following items about this person.

   [Repeat items used in preceding question]

	Definitely No				Definitely Yes
3. In general, have the persons at the resource sites you've visited been interested in the EBCE Program?	1	2	3	4	5
4. In general, have you had enough choice in deciding what to do at resource sites?	1	2	3	4	5
5. In general, at resource sites, did you get to actually do things, rather than just watch or listen?	1	2	3	4	5

SOURCE: Students
INFORMATION TYPE: Opinion Statements
FOCUS: Program Procedures

(Circle one number on each line)

	Definitely No				Definitely Yes
1. Did you like the way of learning (relating study to experience at resource sites) that is used in the EBCE program?	1	2	3	4	5
2. If you had it to do over again, do you think you would participate in the EBCE program?	1	2	3	4	5

Why or why not? Please give a brief statement explaining the reasons for your response.

	Very Little				Very Much
3. In the program, how much were you expected to plan your own activities and manage your own time?	1	2	3	4	5
4. In the program, how much were you expected to judge your own behavior and performance and to accept responsibility for actions you took?	1	2	3	4	5

5. How did you like school this year? [Last year] [The year before last year]

I disliked almost everything about it. 1
I disliked it more than I liked it 2
I liked and disliked it about equally 3
I liked it more than I disliked it 4
I liked almost everything about it 5

SOURCE: Students
INFORMATION TYPE: Opinion Statements
FOCUS: Program Outcomes

1. How much do you feel that you learned in your school program this year?

(Circle one number on each line)

How much did you learn in the area of:	Nothing	A Little	Some	A Lot
a. Learning about careers and jobs	1	2	3	4
b. Planning for a career or careers	1	2	3	4
c. Learning job-seeking skills	1	2	3	4
d. Learning how to do a particular job	1	2	3	4
e. Improving reading skills	1	2	3	4
f. Improving writing skills	1	2	3	4
g. Improving math skills	1	2	3	4
h. Improving listening and speaking skills	1	2	3	4
i. Thinking through and solving problems	1	2	3	4
j. Improving skills in working with other students	1	2	3	4
k. Improving skills in working with adults	1	2	3	4
l. Accepting many different ideas and backgrounds of people	1	2	3	4

(Circle one number on each line)

	Definitely No			Definitely Yes
2. Did your project activities help you to learn about careers?	1	2	3	4
3. Did your project activities help you to learn about academic subjects?	1	2	3	4
4. Did your project activities help you to understand how academic knowledge is used in the world of work?	1	2	3	4
5. Did the EBCE program give you an opportunity to find out more about your career-related interests, abilities, and values?	1	2	3	4
6. Did the EBCE program help you to learn about matching what you know about yourself with future career possibilities?	1	2	3	4

(Circle one number on each line)

	Much Less		About The Same		Much More
7. In comparison with regular schools, how much opportunity did the EBCE program provide you for learning about careers?	1	2	3	4	5
8. In comparison with regular schools, how much opportunity did the EBCE program provide you for general learning?	1	2	3	4	5
9. In comparison with regular schools, how much opportunity did the EBCE program provide you to get information to make plans for the future?	1	2	3	4	5
10. In comparison with your past experiences in regular schools, how motivated were you to learn in the EBCE program?	1	2	3	4	5

	Very Little				Very Much
11. How much have your experiences in the EBCE program prepared you to make an informed decision about your future?	1	2	3	4	5

12. The statements below describe various ways in which <u>your school program last year</u> [or this year] may or may not have helped you. Show how you agree or disagree with the following statements. (Circle one number on each line)

	Strongly Disagree	Disagree	Agree	Strongly Agree
The school helped to prepare me for work.	1	2	3	4
The school helped to prepare me for college	1	2	3	4
The school helped me to decide what I want to do after high school.	1	2	3	4
The school helped me to better understand myself	1	2	3	4
The school helped me to get along better with others.	1	2	3	4

13. Name three ways that you have changed as a result of your school experiences this year.

Analysis: Up to three responses for each student are coded using the following content categories:

Code Number	Area	
1.	Self Growth	Know more about self, matured More sure of self; less shy; express self better More responsible, motivated, less lazy More independent; work for and by self Improved physically; more physically fit Able to solve problems, make decision, cope, plan
2.	Career/Work	Knowledge of and attitudes about careers and the world of work (general) Knowledge about specific careers/jobs/ behaviors
3.	Learning/ Academic Progress	Attitude changed; more interest in school and learning; better study habits; less cutting Learned more (specific and general); prepared for college
4.	Interpersonal	Met more people; do more with people Get along better; relate better; express self more with people
5.	Future Planning	Developed goal (unspecified); thought about plans Decided on further education, go to college
6.	Other	No change Negative change Other

SOURCE: Students
INFORMATION TYPE: Opinion Scores
FOCUS: School

The thirty statements listed below yield four opinion scores. Responses are to be made on a five point scale: Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. In obtaining the opinion scores, Strongly Agree is assigned a value of 5, and Strongly Disagree is assigned a value of 1 for most of the statements. For twelve of them, however, the scoring is reversed; i.e., Strongly Disagree is assigned a value of 5. The direction of the scoring for each statement is indicated to the right of the statement. Each of the four opinion scores for a student is obtained by summing the values for each statement that contributes to the score. The total score is the sum of the four opinion scores.

The statements are grouped on the basis of the score to which they contributed. In the original administrations, the items were presented in random order, rather than being grouped by opinion score. The number at the left of each statement indicates the original order.

Statement Number		Scoring Values	
	Score 1: Decision-Related Attitudes	Strongly Agree	Strongly Disagree
17	At this school I have the opportunity to choose assignments which are interesting to me	5	1
1	The staff at this school likes working with young people	5	1
23	At this school students do not have much choice in what they study	1	5
5	School is important to me because I find many of the things I learn are useful outside of school	5	1
27	The staff at this school will accept suggestions from the students	5	1
10	At this school I am not allowed to be as creative as I want to be	1	5
7	At school I am encouraged to think for myself	5	1
14	Some of the ideas I've gotten in school have been so interesting I have followed up on my own	5	1
16	This school is run like a prison	1	5
20	The staff at this school likes what it is doing	5	1
	Score 2: School-Related Attitudes		
3	School has always been boring--I can hardly wait until I'm out	1	5
8	If I had a choice, I wouldn't go to school at all	1	5
19	School is just a place to keep kids off the street	1	5
29	It is difficult for me to see my education as a stepping stone to future success	1	5
26	School is really worthwhile	5	1
13	I often feel rushed and nervous at school	1	5

SOURCE: Students
INFORMATION TYPE: Opinion Scores
FOCUS: School

Statement Number		Scoring Values: Strongly Agree	Strongly Disagree
	Score 3: Peer-Related Attitudes		
21	I really like most of the kids at this school	5	1
25	Students here are not as friendly as in other schools	1	5
11	It isn't difficult for a new student to find friends here	5	1
9	There are enough different groups here at school for any type of student to find friends	5	1
30	I enjoy the social life here	5	1
4	This school is a good place for making friends	5	1
	Score 4: Staff-Related Attitudes		
15	At this school people really care about me	5	1
18	The staff at this school is often impatient	1	5
2	Students have a voice in determining how this school is run	5	1
6	At this school there are very few people I can go to when I have a personal problem	1	5
24	I like school because I learn a lot of new things here	5	1
22	The staff at this school seems personally concerned about me	5	1
12	The staff at this school is usually friendliest with the bright students	1	5
28	Each morning I look forward to coming to school	5	1

SOURCE: Students
INFORMATION TYPE: Demonstrated Skill
FOCUS: Writing

The two scales shown below were developed by English teachers for use in grading relatively short (20 minute) student essays in the EBCE program. When each essay was read by two people independently, and the scores summed, the total score appeared to have a quite high degree of reliability. Student identification was masked to insure that the graders would not know the particular student whose essay was being read.

SCALE 1: MECHANICS OF WRITING

Rating 5. Virtually flawless writing that would be considered distinguished for a high school student. The student does not need any particular help to improve his writing skills.

Rating 4. A number of mechanical errors, which may result from carelessness more than a lack of skills. The writing would be considered generally satisfactory for most purposes of daily life in business or other communication needs. The student could profit from having someone go over the paper with him and draw his attention to the errors, but probably would need little additional training to improve his writing skills.

Rating 3. The writing is reasonably good, and the errors are not so serious as to interfere with comprehension on the part of the reader. The student does need more instruction or training in composition, and in some instances might need as much as the equivalent of one more semester course in composition.

Rating 2. There is a clear impression that some major aspect of composition has not been learned by the student. The errors are serious enough to interfere with comprehension on the part of the reader. The student needs specialized help that might be obtained through small-group instruction, with a little individualized assistance from a teacher.

Rating 1. The errors are so serious and frequent that comprehension by the reader is nearly impossible. There is probably no situation for which this level of writing would be considered adequate. Improvement of writing skills would require a completely individualized approach to remediation.

SCALE 2: EFFECTIVENESS OF COMMUNICATION

Rating 4. Sequentially stated ideas have a relation to each other; if there is a shift from one topic to another, there is consistency within topics. The sample includes an introduction or premise, a set of considerations or arguments, and a conclusion.

Rating 3. The purpose of the writing is clear, and the message gets across, but there is some lack of coherence that interferes with the overall effectiveness of communication.

Rating 2. There is some indication of relation of different ideas, but not necessarily in sequential order. The sample is little more than a collection of related ideas or thoughts.

Rating 1. This is a collection of nearly unrelated ideas, connected at best by some common words. When a reader is done, there is no idea of what the writer wanted to say, and many of the ideas may not even be related to the topic chosen.

SOURCE: Students
INFORMATION TYPE: Personal Report
FOCUS: Post-high school plans

1. What are your plans for <u>one year</u> after high school? (Circle one number)
   Going to school, but not working. 1
   Mostly going to school, but working part time 2
   Mostly working, but going to school part time 3
   Working, not going to school. 4
   Other activities instead of going to school or working
   (please specify). 5

2. What are your plans for five years after high school? (Circle one number)
   Going to school, but not working. 1
   Mostly going to school, but working part time 2
   Mostly working, but going to school part time 3
   Working, not going to school. 4
   Other activities instead of going to school or working
   (please specify). 5

3. In what kind of educational program do you plan to be enrolled <u>one year</u> after high school? (Circle one number)
   None. 1
   Apprenticeship or on-the-job training 2
   Vocational, technical, trade or business school 3
   Technical or vocational courses at a junior college or
   community college 4
   Academic courses at a junior or community college 5
   Four year college or university 6
   Other educational program (please specify). 7

4. In <u>five years</u> in which of the following areas are you most likely to be working or preparing to work? Please give your best guess. (Circle one)

   Note: There are a number of career/occupation classification systems from which a choice might be made to have students indicate general fields. Sources for such systems are:

   Dictionary of Occupational Titles
   AIR Career Data Book (Project TALENT)
   Career Planning Program

SOURCE: Students
INFORMATION TYPE: Personal Report
FOCUS: School Leavers Survey

1. In coming to a decision to leave FWS, with whom did you talk it over? (Circle all that apply)

   Parents and/or other family member. 1
   Oakland School Counselor or Teacher 2
   Friends 3
   FWL Learning Coordinator. 4
   No One. 5
   Other (Specify Who)_____

2. Which of the following entered into your decision to leave? (Circle all that apply)

   Concern about not getting my diploma. 1
   Concern about not getting into college. 2
   The necessity of getting a paying job 3
   School travel expenses/difficulties.. 4
   FWS was not what I expected 5
   I didn't like the career educational program 6
   Other (Specify) _____

3. How do you judge the help you received in planning your activities? (Circle one)
   1. More than was needed 2. About right 3. Needed more help
4. The amount of work required was:
   1. Too much 2. About right 3. Too little
5. Filling out forms:
   1. Took too much time 2. Did not take too much time
6. The planning forms and records were:
   1. Quite helpful tools 2. Somewhat helpful 3. Not at all helpful
7. The staff of FWS was (by and large):
   1. Doing a good job 2. Doing a poor job 3. Can't judge
8. The staff generally was:
   1. Cold and/or impersonal 2. Warm and/or friendly
9. Your Learning Coordinator was:
   1. Easy to rap with 2. Difficult to rap with 3. Neither
10. The other EBCE students were (by and large):
    1. Cold and/or impersonal 2. Warm and/or friendly
11. Generally, the other EBCE students seemed to be getting:
    1. A lot out of FWS 2. Something out of FWS 3. Little or nothing out of FWS
12. The amount of personal freedom allowed students was:
    1. Not enough 2. About right 3. Too much
13. The things that the Resource Persons offered seemed:
    1. Useful 2. Of little use 3. Can't say either way
14. The Resource Persons you met were generally:
    1. Interesting and enjoyable 2. Dull and boring 3. Can't say either way

15. The things that the Resource Organizations offered seemed:
    1. Useful 2. Of little use 3. Can't say either way

16. The Resource Organizations you visited were:
    1. Interesting and enjoyable 2. Dull and boring 3. Can't say either way

The statements below describe various ways in which the EBCE program may or may not have assisted you. Show how you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Agree	Strongly Agree
17. The school helped to prepare me for work.	1	2	3	4
18. The school helped to prepare me for college.	1	2	3	4
19. FWS helped me to decide what I want to do after high school.	1	2	3	4
20. Far West School helped me to better understand myself.	1	2	3	4
21. The school helped me to get along better with others.	1	2	3	4

22. When you look back and compare your Far West School experiences with those you had in the schools you attended before, you are: (check one)

    [ ] Much less satisfied with Far West School than with the others.
    [ ] Somewhat less satisfied with Far West School than with the others.
    [ ] About as satisfied with one as with the other.
    [ ] Somewhat more satisfied with Far West School than with the others.
    [ ] Much more satisfied with Far West School than with the others.

23. What did you like best about the EBCE program? _____
_____

24. What disappointed you about the EBCE program? _____
_____

25. What are your plans for the next six months? _____
_____

26. What are your plans for one year after high school? (Circle one number)

    Going to school, but not working. 1
    Mostly going to school, but working part time 2
    Mostly working, but going to school part time 3
    Working, not going to school 4
    Other activities instead of going to school or working (please specify) 5

    _____
    _____

SOURCE: Students
INFORMATION TYPE: Published Tests
FOCUS: Career Knowledge
Career Planning
Experiences

INSTRUMENT NAME: Assessment of Career Development*

AUTHORS: Dale Prediger, John Roth, Bert Westbrook

PUBLISHER: Houghton-Mifflin
One Beacon Street
Boston, MA 02107

SCORES:
Occupational Characteristics
Occupational Requirements
Exploratory Occupational Experiences-General
Exploratory Occupational Experiences-Specific
Social/Health and Personal Services
Business, Sales and Management
Business Operations
Technologies and Trades
Natural, Social and Medical Services
Creative and Applied Arts
Career Planning Knowledge
Career Planning Involvement

(Note: The complexity of scoring is such that it can be done only by the publisher. As part of this scoring service, the answer sheets and score reporting provide for response counts on as many as 19 locally developed questions.)

COSTS:*
Examination Kit . . . . . $ 3.60
Reusable Test Booklets (Pkg. of 35) . . 13.95
Answer Sheets (Pkg. of 35). 4.35
Scoring and Reporting Services. . . . . .84 per student with minimum charge of $42.00

*Prices as of Spring 1976; subject to change.

ADMINISTRATION TIME: 125 minutes, with considerable flexibility in scheduling possible.

This instrument was designed and developed specifically for program assessment, as opposed to individual student assessment. It has been carefully developed and tested to provide a wide range of information useful in career education program evaluation. The areas and content covered are quite relevant to many, but not all, of the EBCE program purposes. The Handbook Users Guide and Report of Research is very well prepared, and contains a good discussion of the strengths and limitations of the assessment instrument. One of the best features of the Handbook is an Appendix which is well designed to assist potential users in making judgments about the relevance of the content of the instrument to the purposes of a given program.

The available data indicate that the scores reported are sufficiently reliable for group and program evaluation. Most of them are reliable enough

to provide useful information for individual student assessment when used in conjunction with other information available for the students. The national normative data were obtained with care, and would be entirely satisfactory for use in studies requiring comparison of EBCE students with national norms samples. Only cross-sectional growth data are available, and there is only one form of the instrument. Thus, data for any study of growth would have to be interpreted with care.

This instrument merits review and consideration, if funds and student time for information collection are available.

SOURCE: Students
INFORMATION TYPE: Published Tests
FOCUS: Abilities
Experiences
Career Plans
Career Interests

INSTRUMENT NAME: Career Planning Program, Grades 8-11

PUBLISHER: Houghton-Mifflin
One Beacon Street
Boston, MA 02107

SCORES: Abilities

Mechanical Reasoning	Reading Skills
Numerical Skills	Language Usage
Space Relations	Clerical Skills

Interests

Social Science	Technical
Business Contact	Science
Business Detail	Creative Arts

Career Exploration Priorities

Business Sales and Management
Social, Health and Personal Services
Creative and Applied Arts
Natural, Social and Medical Sciences
Technologies and Trades
Business Operations

COSTS:*

Examination Kit.	$ 3.00
Booklet 1 (pkg. of 35) Includes Interest and Experience Inventories	21.75
Booklet 2 (pkg. of 35) Ability measures	21.45
Answer Folders (pkg. of 35).	7.35
Scoring and Reporting.	.99 per student, minimum charge $49.50

*Costs as of Spring 1976; subject to change. Complexity of scoring requires that the scoring and reporting services be purchased from the publisher.

ADMINISTRATION: See text below.

As the name implies, this is more than a set of tests. In fact, these materials, which include some tests, were developed to organize a variety of student information in a way that would aid students in learning and thinking about career planning. They include teacher aids and materials for offering a mini-course in career planning.

Although the materials were developed to provide information and learning for students, they appear to have potential value for program assessment as well. With advance planning for proper use of the material, students would be interested in the material *per se* because it would be useful to them. This could contribute appreciably to improving the program evaluation information.

All the normative data available for the various measures have been obtained on the same samples, which have been rather carefully selected. Thus, in normative terms the abilities and interests can be related to each other. The reliability data available for the various tests indicate that they are entirely satisfactory for group assessment. Whether they would be satisfactory for the assessment of growth is, of course, unknown, since this is not a purpose for which the materials were originally developed.

If viewed solely as an instrument to provide program evaluation information, these materials may appear to be quite expensive. If viewed as potentially useful instructional material, or a source of information to be used in personalized program planning which can also provide program evaluation data, the relatively high cost may be justified. This material merits review and consideration for use in program evaluation. It should be stressed, however, that this is not a purpose for which the material was intended, its use in this way may in some cases be inappropriate; in all cases, it will require care and imagination in the evaluation planning.

SOURCE: Student
INFORMATION TYPE: Published Test
FOCUS: Career Planning
Career Knowledge
Career Attitudes
Career Experience

INSTRUMENT NAME: New Mexico Career Education Test Series

AUTHORS: Charles C. Healy, Stephen P. Klein

PUBLISHER: Monitor
P. O. Box 2337
Hollywood, CA 90028

SCORES: Attitude Toward Work
Career Planning
Career Oriented Activities
Knowledge of Occupations
Job Applications Procedures
Career Development

COSTS:*

Examination Set of Six Tests, Manual.	$17.50
Reusable Test Booklets (Separate Booklet, each test)	
Pkg. of 35	8.50
Pkg. of 100.	22.50
Answer Sheets (Separate answer sheet, each test)	
Pkg. of 35	2.00
Pkg. of 100	4.50
Scoring Stencil (Separate stencil, each test)	1.00

*Costs as of Spring 1976; subject to change. Prices listed for booklets answer sheets and stencils are for 35 or 100 copies of one test only.

ADMINISTRATION: 20 minutes for each test. Tests can be given separately or as a total battery.

One of the major features of these tests is that they were developed to quite specific statements of career education objectives, and the questions in each test are keyed directly to these objectives. The tests will be useful primarily for program evaluation, rather than individual student assessment. It should be relatively straightforward to determine whether there is sufficient match between test and program objectives to justify use of a particular test. The tests have been organized to allow for the selection of those most relevant; they represent a pool of developed tests from which relevant tests may be chosen.

The data on the reliability of the tests indicate that most of them provide information accurate enough for assessment of group status; it is not clear how useful they would be for measurement of growth in the variable measured. The normative data provided are based on samples of students from New Mexico schools; although the sampling was done with some care, the limited geographical representation limits the usefulness of such norms in program evaluation studies requiring comparison of EBCE with a national sample of students.

These tests were published at the completion of a quite thorough first stage in the development of "criterion referenced" tests in career education. They appear to have potential value for the measurement of some areas not covered by other tests, and merit review and consideration for this reason.

INFORMATION SOURCE:

EBCE PARENTS

SOURCE: Parents
INFORMATION TYPE: Opinion Statements
FOCUS: Program Procedures

1. What kinds of contacts have you had with the school staff this year? (Circle one number on each line)

	Never	Once or twice	Three or more times
a. Telephone conversations	1	2	3
b. Individual meetings	1	2	3
c. Group meetings (with other parents)	1	2	3
d. Mailed correspondence-general school information	1	2	3
e. Written reports or correspondence about the performance of your son or daughter	1	2	3
f. Other (please specify)			

2. (Circle one number on each line)

	Definitely No				Definitely Yes
a. Do you get all the information you want about your son or daughter's progress and performance at school?	1	2	3	4	5
b. Do you get all the information you want about the school in general?	1	2	3	4	5
c. Was the school staff effective in helping your son or daughter plan a learning program suited to his/her needs?	1	2	3	4	5
d. Was the school staff effective in handling any problems that developed with your son/daughter during the school year?	1	2	3	4	5

3. How often have you participated in school activities? (Circle one number on each line)

	Never	Once or twice	Three or more times
a. Attend parents meetings	1	2	3
b. Hold office or contribute time to parents group	1	2	3
c. Serve as a school representative at external meetings	1	2	3
d. Assist in social or recreational activities with students	1	2	3
e. Participate in learning activities at school site	1	2	3
f. Participate in learning activities in the community	1	2	3
g. Other (please specify)	1	2	3

SOURCE: Parents
INFORMATION TYPE: Opinion Statements
FOCUS: Program Accomplishments

1. In your opinion, how much did your son or daughter learn in the school program this year? (Circle one number on each line)

How much did the student learn in the area of:	Nothing	A Little	Some	A Lot
a. Learning about careers and jobs.	1	2	3	4
b. Planning for a career or careers	1	2	3	4
c. Learning job-seeking skills.	1	2	3	4
d. Learning how to do a particular job.	1	2	3	4
e. Improving reading skills	1	2	3	4
f. Improving writing skills	1	2	3	4
g. Improving math skills.	1	2	3	4
h. Improving listening and speaking skills	1	2	3	4
i. Thinking through and solving problems	1	2	3	4
j. Improving skills in working with other students.	1	2	3	4
k. Improving skills in working with adults.	1	2	3	4
l. Accepting many different ideas and backgrounds of people.	1	2	3	4

2. The statements below describe various ways in which the school program this year may or may not have assisted your son or daughter. Show how you agree or disagree with the following statements: (Circle one number on each line)

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. The school helped in preparing for work.	1	2	3	4
b. The school helped in preparing for college	1	2	3	4
c. The school helped in deciding on what to do after high school	1	2	3	4
d. The school helped in self-understanding	1	2	3	4
e. The school helped in getting along better with others.	1	2	3	4

(Circle one number on each line)

	Very Little				Very Much
3. How did your son or daughter like the school program this year compared to previous years?	1	2	3	4	5
4. How motivated to learn was your son or daughter this year compared to previous years?	1	2	3	4	5
5. How much has your son or daughter learned in school this year compared to previous years?	1	2	3	4	5

6. If you had it to do over again would you want your son or daughter to participate in the Career Education Program? (Circle one number)

Definitely No				Definitely Yes
1	2	3	4	5

Why or why not?

INFORMATION SOURCE:

SCHOOL FILES

SOURCE: School Files*
INFORMATION TYPE: Personal Report
FOCUS: Student Background

Code

1. Birthdate

2. Current school grade level: (Circle one)
   - 9th grade. 1
   - 10th grade. 2
   - 11th grade. 3
   - 12th grade. 4

3. Sex (Circle one)
   - Male 1
   - Female. 2

4. How do you describe yourself? (Circle one)
   - American Indian 1
   - Black or Afro-American. 2
   - Filipino. 3
   - Mexican-American or Chicano 4
   - Puerto Rican. 5
   - Other Latin-American origin 6
   - Asian-American. 7
   - White or Caucasian. 8
   - Other 9

5/6. What is the highest level of formal education completed by your father [mother]? If you are not sure please give your best guess. (Circle one)
   - Elementary school 1
   - Some high school training 2
   - High school diploma 3
   - Some college training 4
   - College degree. 5
   - Some graduate school training 6
   - Graduate school degree. 7

7. Father's and mother's work

   Under FATHER, circle the one number that best describes the work done by your father (or male guardian). Under MOTHER, circle the one number that best describes the work done by your mother (or female guardian). The exact job may not be listed but circle the one that comes closest. If either of your parents is out of work, disabled, retired, or deceased, mark the kind of work that he or she used to do. (Circle one number in each column)

	Father	Mother
CLERICAL *such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent.*	.1. . .	.1
CRAFTSMAN *such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter.*	.2. . .	.2
FARMER, FARM MANAGER	.3. . .	.3
HOMEMAKER OR HOUSEWIFE	.4. . .	.4
LABORER *such as construction worker, car washer, sanitary worker, farm laborer.*	.5. . .	.5

*The kind of information described in this and the next 2 pages would ordinarily be obtained at the time of application or enrollment and used for a variety of purposes in addition to program evaluation.

	Father	Mother
MANAGER, ADMINISTRATOR *such as sales manager, office manager, school administrator, buyer, restaurant manager, government official*	6	6
MILITARY *such as career officer, enlisted man or woman in the armed forces*	7	7
OPERATIVE *such as meat cutter, assembler, machine operator, welder, taxicab, bus or truck driver, gas station attendant.*	8	8
PROFESSIONAL *such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress.*	9	9
PROPRIETOR OR OWNER *such as owner of a small business, contractor, restaurant owner*	10	10
PROTECTIVE SERVICE *such as detective, policeman or guard, sheriff, fireman*	11	11
SALES *such as salesman, sales clerk, advertising or insurance agent, real estate broker.*	12	12
SERVICE *such as barber, beautician, practical nurse, private household worker, janitor, waiter.*	13	13
TECHNICAL *such as draftsman, medical or dental technician, computer programmer.*	14	14

Note: This grouping of careers/occupations is based on Dictionary of Occupational Titles. There are other grouping systems, as listed in student section of Appendix, which may be as useful or more useful for same purposes.

8. What is your past job history? (Circle one)
   - No paid work experience 1
   - Some paid work experience, but less than 3 months full time or six months part time 2
   - At least 3 months full time or 6 months part time 3
   - At least 6 months full time or 12 months part time. 4
   - At least 1 year full time or 2 years part time. 5

9. How did you find out about the EBCE Program?

   School presentation by EBCE Staff [ ] Counselor, Teacher _____

   Friend in EBCE Program_____ Other Friend_____

   Poster [ ] Radio or TV [ ] Newspaper [ ]

   Other (specify)_____

10. What are your free time activities?_____

11. What are your plans for work or study after high school?_____

12. Why are you attending the EBCE program this year? Below is a list of some possible reasons for attending; please indicate whether each was an important reason for your decision to attend EBCE, was somewhat important or was not important. (Circle one number on each line)

	Not Important	Somewhat Important	Important
To develop plans for after high school	1	2	3
To learn things that I want to learn	1	2	3
To make new friends	1	2	3
To find out more about my own values, interests, needs and goals	1	2	3
To plan my own learning program	1	2	3
To get into a program different from regular school	1	2	3
To work with adults in the community	1	2	3
To have more individual attention	1	2	3
To find out more about careers	1	2	3
To have learning activities outside of the classroom	1	2	3
To get job training	1	2	3
To have more responsibility and independence	1	2	3
To get away from problems at my previous school	1	2	3
To improve my skills in meeting and dealing with adults	1	2	3
To get help in finding a job	1	2	3
Other reason (please specify)	1	2	3

SOURCE: School Files
INFORMATION TYPE: Documentation
FOCUS: EBCE Activities and Personalized Learning

A great deal of information about student activities and accomplishments is produced and recorded as the students progress in the EBCE program. The forms used to document these are discussed and reproduced in the Learning Coordination manual, Appendix 2 - Student Records System.

Much of the student record material is designed to facilitate students learning and coordination, and probably should not be used in program evaluation. The forms that are most likely to be of use for program evaluation are listed below, with references to the relevant pages in the Learning Coordination appendix. Of course the forms that are actually used, and the extent of use, will vary from one program to another; there may also be variability within a particular program in the extent to which various staff members use these forms.

It is most important that the evaluator work very closely with the program staff to achieve mutual understanding of the uses of information to improve student learning and/or to provide useful program evaluation data.

Form Number	Name	Appendix 2 Page Nos. Discussion	Form
1	Reading Checklist	133	147
2	Oral Communications Rating	134	149
3	Quantitative Skills Checklist	134	151
4	Writing Scale	134	153
6	Career Information Checklist	135	159
7	Career Decision Making Rating	136	161
15	External Course Description	138	179
20	Student Project Plan	140	189
23	Student Activity Report (SAR)	142	197
31	Project Summary Report	145	225
32	Summary Progress Report	145	229
33	Credit Assignment Summary	145	231

SOURCE: School Files
INFORMATION TYPE: Documentation
FOCUS: Resources

Because of the importance of the external resources to the success of the EBCE program, resource availability and characteristics should be quite fully documented. Resource persons and organizations contribute their time, however, and the program staff must adapt to their characteristics and style. Thus, the documentation of the resource availability may not always be as complete as desired.

Most information about the actual student activities at the resource sites is contained in the various student-related documents. Forms that might be used to document and describe potential resource availability have been prepared, and are included in the Resource Development manual, Appendix 5. The forms most likely to provide information useful in program evaluation are listed below with references to the relevant pages in the manual.

It is most important that the evaluator work very closely with the program staff to gain a thorough understanding of the practical constraints that operate in the collection of information from and about the various kinds of resources.

Form Number	Name	Resource Development Page Nos. Discussion	Form
2	Resource Contact Card	67	77
3	Resource Log	68	79
4	Resource Information Sheet	68	81
6	Resource Site Analysis Worksheet	69	85
12	Resource Maintenance Contact Report	70	95

INFORMATION SOURCE:

RESOURCE PEOPLE AND ORGANIZATIONS

SOURCE: Resources
INFORMATION TYPE: Opinion Statements
FOCUS: EBCE Activities and Procedures

1. In general, what did students do at your site? For each activity, please circle one number and then estimate the percent of students' time spent in that activity.

	Never	Some-times	Usu-ally	Always	Percent of time
a. Talk about jobs, careers.	1	2	3	4	
b. Observe work activities	1	2	3	4	
c. Participate in work activities. . .	1	2	3	4	
d. Learn job or career skills.	1	2	3	4	
e. Learn academic skills	1	2	3	4	
f. Plan or work on project	1	2	3	4	
g. Talk about personal interests or issues	1	2	3	4	
h. Other activities. . . . . (Please specify)	1	2	3	4	
					100%

_____

_____

_____

2. Did the student activities that took place at your site fit the original understanding you had of EBCE activities? (Circle one number)

Definitely no . . . . . Definitely yes

1. . . . . 2 . . . . . 3 4

3. How much contact did you have with the EBCE staff during the school year? (Circle one number on each line)

	Number of contacts			
	None	One or two	Three or four	Five or more
Visit by Resource Analyst.	1	2.	3.	4
Visit by Learning Coordinator. . . .	1	2.	3.	4
Telephone call by Resource Analyst.	1	2.	3.	4
Telephone call by Learning Coordinator.	1	2.	3.	4
Visit or telephone call by other staff.	1	2.	3.	4
Letter or other personal communication from staff.	1	2.	3.	4
Printed newsletter or other informational material.	1	2.	3.	4

4. During the past school year approximately how many hours have you and your staff spent in EBCE-related activities?_____

5. Has participation in EBCE activities taken more or less time than you originally expected? (Circle one number)

Definitely Less			Definitely More
1	2	3	4

6. In general, how satisfactory have been your relationships with students and staff of the EBCE program? (Circle one number on each line)

	Never satis-factory	Sometimes satis-factory	Usually satis-factory	Always satis-factory
Students				
Reliability in keeping commitments	1	2	3	4
Behavior at the site	1	2	3	4
Interest in site activities	1	2	3	4
Other (please specify)	1	2	3	4
EBCE Staff				
Assistance in planning meaningful student activities	1	2	3	4
Assistance with student problems	1	2	3	4
Feedback on student progress	1	2	3	4
Other (please specify)	1	2	3	4

SOURCE: Resources
INFORMATION TYPE: Opinion Statements
FOCUS: Program Accomplishments

1. From your own observation, how much do you feel that your site has been able to offer students in the way of learning experiences?

(Circle one number on each line)

How much opportunity did the students have to learn in the area of:

	Nothing	A Little	Some	A Lot
a. Learning about careers and jobs.	1	2	3.	4
b. Planning for a career or careers	1	2	3.	4
c. Learning job-seeking skills.	1	2	3.	4
d. Learning how to do a particular job.	1	2	3.	4
e. Improving reading skills	1	2	3.	4
f. Improving writing skills	1	2	3.	4
g. Improving math skills.	1	2	3.	4
h. Improving listening and speaking skills	1	2	3.	4
i. Thinking through and solving problems	1	2	3.	4
j. Improving skills in working with other students	1	2	3.	4
k. Improving skills in working with adults	1	2	3.	4
l. Accepting many different ideas and backgrounds of people.	1	2	3.	4

2. How important to you are the following reasons for participating as a Resource in the EBCE program? (Circle one number on each line)

	Not important	Somewhat important	Important	Very important
Giving students new learning experiences.	1	2	3	4
Giving students career information.	1	2	3	4
Helping students grow and mature	1	2	3	4
Working with professional school staff	1	2	3	4
Participating in a new community program	1	2	3	4
Increasing community awareness of my organization	1	2	3	4
Increasing my understanding of youth	1	2	3	4
Other (please specify)	1	2	3	4

_____

_____

3. In terms of your own experiences--weighing costs, benefits, and other contributing factors--how do you feel about participation in the EBCE program? (Circle one number on each line)

	Undesirable	Somewhat desirable	Desirable	Very desirable
By you	1	2	3	4
By your organization	1	2	3	4
By students in your community	1	2	3	4

4. Do you plan to continue to participate in the EBCE program? (Circle one number)

Definitely no			Definitely yes
1	2	3	4

5. Would you recommend to other organizations or individuals that they become involved in the EBCE program? (Circle one number)

Definitely no			Definitely yes
1	2	3	4

SOURCE: Resources
INFORMATION TYPE: Interview
FOCUS: Entire Program

The EBCE Program has asked me to talk with some of the persons working with their students in order to find out how students and resource persons are working together. It is also important to know how you feel about the school and its programs. May I ask you just a few questions about your involvement with students these past few months?

1. How many students have you seen this semester?

2. Our EBCE program categorizes activities of students with resource persons by the objectives of the student-RP relationship:

   Orientation: Acquainting the student with you, your career and job, and your organization. Activities might have included guided tours, rap sessessions, or introductions to staff engaged in daily routines.

   Exploration: Studying in detail an occupation, issue, or subject area. The student would prepare a research report, essay, photo essay, or oral presentation as documentation of his findings.

   Investigation: Lengthy (over 40 hours) personal involvement in productive, job related tasks and assignments, with intensive study of related materials, could involve on-site training.

   Of the students you have seen this semester, how many would classify as having been involved at the level of:

   A. Orientation?_____

      Were they able to observe normal work activities at your place?

      Yes___No___ (Probe for explanation)

   B. Exploration?_____

      Could you give their names? (1) (2) (3)

   C. Investigation?_____

      Could you give their names? (1) (2) (3)

3. In Question 3, ask about each student identified at "Exploration" or "Investigation" level in Question 2.

   A. Let's talk about _____. What do you feel he/she learned from working with you? (Probe for examples of specific things or tasks he/she learned to do).

   B. How about _____. What do you feel he/she learned from working with you? (Probe for examples of specific things or tasks he/she learned to do).

4. When a student works with an RP he/she is supposed to have a plan for his/her activities. The plan, the activities involved, and the product he/she prepares as evidence of learning are called a project.

   A. Did the students you were working with give you information about their projects? (Probe using names in Q3 if necessary. If the RP has information on some project(s), continue the remaining parts of Q4).

B. Did the projects students were doing seem worthwhile? If not, why?

C. Did any students seek help from you in planning their projects?

D. Did any students seek advice from you as they worked on their projects? (Probe: where to get more information).

E. Did any students ask you to evaluate their projects or performance at your site? If yes, what was the outcome?

F. Did you get any feedback from the school about the students' projects.

5. Do you feel the students make appropriate use of the learning experiences you can offer them?

6. Is there anything in particular about the program you would like to suggest or comment on to EBCE staff?